uniform in their Operation. upon my whole then I embrace the Dogmatic plan of teaching Physic, & shall deliver these Lectures in this way only. but I shall always combine Experience & Reasoning together.

the Court Some will tell you y: all Physicians practise a like however different their Theories may be, & hence the little Importance of Theory or Reasoning in Physic! but I deny this Fact, for altho in Consultations men may agree yet a man who thinks for himself will in his private practise judge for himself also. the Practise of different Ages is the widely different, & has always

1a, These strictures relate only to this
Cauthier's Precis de la Medicine

influenced by Theory as I would point out to you at large was this a proper place for it. few men have Genius enough to study System or Theory, even men of Genius have fallen into Errors of this kind. Lieutaudis an Author of this kind[a] he never distinguished Genera or Species of Diseases, nor are the Symptoms of Dis=eases related in the Order in which they occur in ~~them~~ ~~does~~ his Historia Morbi. his Methods of Cure are not=less ~~unexceptionable~~. he confines himself to a certain List of Medicines which he prescribes in all Diseases alike. I thot these Strictures upon an Author wch: if you have all in your Hands absolutely nec=

nor do I think them foreign to a Course of Lectures on the Practise of Physic. He tells us too that all his Recipes are the Result of Experience. Strange! that Experience shd. teach differently in France from wt. it does in England!

In my Opinion a new Method of studying Physic must be proposed. Facts must be better arranged, Diseases must be better distinguished, & proximate Causes must always be investigated if we would wish to advance our Knowledge in Physic, & our Skill in curing Diseases. Still I would advise you not to be too much attached to

any One System, altho some One System is Absolutely necessary. I believe we never had a worse Sett of Practitioners than at present, wch is owing to their not being attatched to any One System, for we are fluctuating between ye Systems of Dr Boerhaave Stahl & Hoffman.

But you are happy Gentlemen in having attended Dr Gregory's Lectures upon this Subject wch I may say are the best now given in Europe. I do not pretend to improve upon them. all I design is, to deliver a few general Doctrines wch are peculiar to myself, & such as are not to be found in any Books of Physic. they are Notions wch I have embraced, & taught these 20 Years, & which many of you have heard & read from other Mouths & Other Books besides my own.

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ays:

I shall now add, what Assistances you may receive from Books. I think it Absolutely necessary that you should be acquainted w: the works of Boerhaave Stahl & Hoffman. next to these I would advise you always to have Sauvages's Nosologia Methodica before your ~~minds~~ Eyes, as also Linnaeus & Vogel who have each of them attempted a systematic Arrangement of Diseases.

To assist you in the Investigation of proximate Cause you must consult Dissections. the best Books for this purpose are Bonetus's Edition of Bonetus's Sepulchretum Anatomicum - Morganni de Causis & Sedibus Morborum; & a late work of Lieutaud's called "

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Introduction

Before I deliver my plan I shall give you a few more general principles. I before point:ted out to you the Importance & necessity of System ~~of~~ in Physic.

Diseases may be distinguish'd in as Objects of Sense & in this manner may be reduced to a Nosologia Methodica & 2nd: from their proximate Causes. This last Metho: of dividing Diseases has hitherto been treat: :ted. I shall not now offer my Reasons for adopting it, but hope to convince you of its propriety hereafter. We have great Encouragement to proceed in Arranging Diseases in a Systematic way from 4 principles wch: the votaries of Botany have met with in the Arrangement of plants. Dr: Cullens has pointed out to us the possibility of the

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same success in Medicine in ~~the~~ y^e 8th & of his Pathology. Altho' we have as yet reaped no great Advantages from the Attempts y^t have been made, yet it should not dis:=courage us from making further & more vigorous Attempts in this way. particu:=lars cannot be studied by themselves from w^h we said before concerning the Nature of Definition in the Language of the Logicians. when we knew but a few Genera & species of plants our Investigation of them was much more difficult than at present since our Knowledge of plants has become more enlarged. But even y^e Science of Botany cannot be complete 'till every plant in the world is found out. all

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this tends to show the necessity of reducing Particulars to Systems in Order to asta:=blish our Knowledge of them. this then is my Apology for the Strictures I intend to make on the Arrangement of Diseases by Others, & the One I propose to offer of my Own.

In all Systems of Science the utmost Respect must be paid to y^e Nomenclature of particular Genera & Species or all our Language will be very vague & inanimate. Denomination will always keep pace precisely w^th: Distinction in all Sciences more especially in Medicine.

I shall now give you a few Strictures upon the Systems of Physic that have

been attempted each of which are far from being accurate. I shall therefore reject them all, but first give you my Reasons for it.

you see from the Comparison of three of them in the 2d page that Sauvage Linnaeus & Vogell all agree in the 1, 4, 6, 7, & 9th in the 8th & 10 Sauvage & Linnaeus agree, as also in their 2, & 3rd; except that Linnaeus has divided one of these last Classes into 2 Orders. Sauvage & Vogel agree in general except in the 5th Class of 7 formen & a few other particulars where Orders are made Classes or Classes Orders. the general Agreement of these 3 Authors points out the possibility & advantages of Systematic Arrangement in Diseases.

Some of these Clases ought entirely to be rejected from our System. the Vitia is established by two a slender a Definition, as being derived from the feat, which we know is liable to great Ambiguity. This Clas in particular is confounded th w: all the Diseases of the skin w: properly come under another Clas.

The Cachexiae should likewise be rejected as being an improper Clas. it unites many Genera of Diseases which have no Relation to One Another except in the single Symptom of difficult Respiration. e/y Asthma & Hydrothorax have no Relation to One another but they are both arranged in this Clas.

The Dolores should likewise have notwithstanding in a System of Physic. it is formed from a single Symptom wch was the Case w the former Class. in all our Arrangement of Diseases we should strictly avoid blending Diseases together from Symptoms wch are common to many or most of them. thus the Cardialgia & Rheumatism are placed in this Class. & yet how widely different are the Causes & Cures of these two Diseases! Besides he omits many Diseases wch under this Head where pain is ye most Characteristic Symptom, nor does he properly distinguish between Uneasiness & pain, & hence he reduces sickness. Stupor &c to this Class. The Other 7 Classes of Sauvagesvauge may be admitted under proper

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Restrictions. the 2d & 3 viz: the Lewes & Phlegmatica might w: equal propriety have been reduced to the one general Class of Febres. they are however natural Classes. they are all defective in this particular viz: in having rejected all Cases of external Inflammation.

The 5th viz: the Spasmi is likewise a natural Class, & common to all the Authors we have spoken off. but it is defective in them all, in excluding the Asthma — Palpitatio Cordis &c, nor should they be seperated from other Spasmodic Diseases where the Spasm is more difficultly Observed.

The 6th Class Debilatates is founded in Nature but as it comprehends Organical Diseases

of the Fungoes, which properly belong to another Class. this Class ought only to comprehend the more general Affections of the Mucous System.

The 8th Vesania is upon the whole a natural Class, but it is ~~fal~~ faulty in comprehending the Organical Affections of particular Organs such as the Cataract & several Other Diseases of the Eyes wch have no Relation to Hypocondriacis or Delirium.

The 9th Fluxus is a faulty Class in not distinguishing those Fluxes wch are active & passive as Pathologists call them, as well as those wch are & those wch are not Attend: th Fever.

: 2ed w: Fever.

The 10th Cachexia is likewise incorrect in

[illegible]

not distinguishing Organic from Systematic Affections. nor is the Definition of this Cl properly restricted.

To these Classes of Sauvage Vogel has added another viz the Epischeses wh: Sauvage rejects upon the Acc: of its be defined by negative Qualities. this I grant should be avoided in all Definitions as much as possible, but they must sometimes be called in. Sauvage himself falls in to it in a hundred Instances in the Course of his work.

— I cannot say however there was any necessi: ty for a Class of this kind, as the suppression of Secretions is often nothing else but a Symptom of other Disease.

After having raised the Objections

to these Systems of Physic I have presum'd to offer One of my Own w:ch is indeed a very imperfect Attempt at a horologia methodica. I had not time to make it better. I tho't it absolutely necessary as a Foundation for these Lectures, and I am willing to sacrifice a little of my own Reputation ~~sake~~ for your Advantage.

I have divided the plan into two parts. the first come immediately un.der the Notice of the Physician. the 2.nd belongs more properly to the Surgeon & upon that Acc.t has often been left out of a Course of practical Lectures, w.ch I propose to do in this the present.

Synopsis Morborum

Pars I.

Morbi universales sive totius Systematis

Classis I. Pyrexiae. Post Horrorem, pulsus frequens, & Calor major, viribus Artuum imminutis.

Ordo 1, mus Febres. Pyrexia sine morbo locali primario.

Ordo 2.nd Phlegmasiae. Pyrexia cum Dolore topico.

Ordo 3.tius Exanthemata. Post Pyrexiam phlegmasiae pluries in Cute Sparsae.

Ordo 4.tus Haemorrhagiae. Pyrexia cum profusione sanguinis.

Ordo 5.us Profluvia. Pyrexia cum Auta Excretione non sanguinolenta.

Class: II Neuroses - Sensus & Motus Affectiones sine pyrexia vel vitio Organico.

Synopsis morborum

Classis II Neuroses.

Ordo 1.mus Comata. Sensus & motus imminuti cum Sopore.

Ordo 2.dus Adynamiæ. Sensus & motus imminuti sine Sopore.

Ordo 3.tius Spasmi. Muscularium Fibrarum Contractiones inordinatæ.

Ordo 4.tus Vesaniæ. Sensus externi & interni inordinati.

Classis III Cachexiæ. Habitus externi totius Corporis, vel magnæ ejus partis depravatus.

Ordo 1.mus Macies. Corporis Extenuatio.

Ordo 2.dus Intumescentiæ. Corporis totius vel magnæ ejus partis Volumen adauctum.

Ordo 3.tius Impetigines. Cutis defœdatæ pustulis parvis, Crustaceis plerumque gregalibus.

Classis III Cacheziæ.

Ordo 4tus: Decolorationes. Cutis Color in toto Corpore mutatus.

Pars II.

Morbi particulares sive partis unius Organici.

Classis IV. Epischeses. Excrementorum suppressiones

Classis V. Dysaisthesiæ. Sensus imminuti.

—— VI Dyalysis - Solutiones Continui.

—— VII Excresentiæ. Tumores a solidis adauctis.

—— VIII. Cystides. Tumores capsulati.

—— IX. Ectopiæ. Partium solidarum e suis Sedibus Dimotiones.

—— X. maculæ. Cutis Coloris in partibus Mutatio.

The 1st Class the Pyrexiæ is a Natural Class & will therefore be readily admit=ted. All the Orders w:ch includes com=prehend those Diseases w:ch depend upon an increased action of those powers w:ch move the Fluids.

in the 1st Order under the Definition of Fever I have added the word primario. - you will see the propriety of this addition by consulting § 848 of Dr. Gaubius's Patho=logy.

The 2nd Order Phlegmasiæ ought to com=prehend a Definition of Inflammation but this would be foreign to our purpose I would have restricted it too much.

The 3rd Order you will perhaps think in=complete in not comprehending the

Erisipelas or Anthrax, but I shall tell you my Reasons for Omitting them here presently.

The 4th & 5th Orders are very generally attended w: th Fever & therefore come properly under this Class.

Class II. Neuroses. Physicians disagree about this Class. the Definition I have offered I hope will include them all.

The Orders I have placed under this Class are not new, but the Arrange:ment of them is somewhat different from Sauvage.

Class III. Cachexia. this is a very diffi:cult Class, & all the Orders brought under it are included from Dogmatic Views

or from Notions of proximate Causes.

Order 1st Macies. I believe seldom ex=
=ists. it is rather a Symptom of Other
Diseases as we shall hereafter show.

Order 2nd the Intumescentia shall include
all the Species of Dropsy, as they all
depend in some Measure on One
common Cause.

I told you before 4th I did not intend
to treat of the 2nd part of the Classes
of Diseases in our plan. you will
find them accurately pointed out
& divided by Dr. Gambius in his Patho=
=gy under y Head of "morbi solido=
=rum Continentium", & morbi Instru=
=mentari" ——

I shall now enter upon the Considera:
:tion of the 1st Class viz: the Pyrexia. I
shall Omit treating of this Class in a
general way, but proceed immediately
to the Disquisition of the 1st Order viz: the
Febres where the Pyrexia do uniformly
attend. It is the great Advantage of
Nosologia Methodica to distinguish Disea:
:ses by those marks only which are essen:
:tial & pathognomonic. Pyrexia therefore
& even a Quickness of Pulse are not suf:
:ficient to characterise Fevers. Some:
:thing else then must be called in. I
have therefore in Imitation of Sauvage
chose to distinguish it likewise by the
Horror which do universally attend Fever.

To guide us in our Distinctions we shall briefly point out the Symptoms of a Fever, & for the sake of Perspicuity I shall select that Species of Fever which is called Intermittent.

This Disease comes on w.th Lassitude Stretching & Yawning. this Lassitude is attended w.th Sluggishness Indolence & Inactivity. the Patient is unable to stand or exercise himself as usual. these Symptoms are succeeded w.th Paleness, which begins in the Extremities & tips of the Nose. the Body now shrinks = the Skin contracts = Rings fall from y.e Fingers = the

Red Pupils disappear. the Skin is shrinked, but the nervous papillæ project like Grow Flesh. the Body is now cold to the Touch especially the Feet. this sense of Cold is attended w: the creeping thrills w: are felt chiefly in the Back. this Cold is attended w: Tremors. Rigor w: are most vi=olent in those parts where ~~this~~ are least supported as in y^e Lower Jaw. - now a Heat begins to spread itself from the Præcordia to every part of the Body. the Tremors cease. the Co=lour & Fulness of the Surface of y^e Body return - the Face becomes red. &

flushed wth Heat - a Sweat now breaks out beginning in the Face, & gradually extending itself all over the Body. the Sweat after a while ceases, & y^e Body returns to its usual state except y^t a Debility remains for some time after the Fever. This Paroxysm as thus described has been divided into several Stages. such as the Cold Fitt - the hot Fitt - & the time of Sweat, or in other words ye Stadia Frigoris - Caloris & Sudoris. the Limits of these Fitts are not accurately defined. there are other Circumstances to be taken into our

Consideration such as the State of the Pulse in the cold Fitt is weak & irraggular. in the hot Fitt it becomes stronger, fuller & more regular, but is manifestly contracted & hard. as the Heat advances, the Pulse encreases in Fulness & Force. when the Sweat breaks out, the Pulse becomes more full but soft & when the Sweat goes off ye Pulse returns to its usual State.

The Respiration in the cold Fitt is small & laborious. in the hot Fitt it is lip frequent & more easy, & as the Sweating Fitt returns

it becomes more easy & natural.

The Secretions vary in these Fits.
in the cold Fitt they are all Obstructed.
- the Skin is dry - the Mouth parched -
- the Bowels costive - no or very pale
urine - But in the hot Fitt the Secre-
-tions are gradually opened & in the
Sudo-Sudoris the Bowels are
opened - the pores are relaxed, & y^e
Mouth becomes moist, & ye urine drops
a lateritious Sediment.

In the Cold Fitt all Ulcers appear to
dry - Tumors detumesce & some
disappear, but as ye hot Fitt & sweat-
-ing return these Ulcers pour out
new Matter & the Tumors again

appear

The Functions of the Stomach are greatly changed. an Aversion to all Food takes place, as also to Tobacco Snuff &c. a vomiting sometimes comes on. But all these disappear at the Approach of the hot & Sweating Fitt.

a Debility continues thro all these three Stages. Sensation is greatly interrupted in the cold Fitt. the Eyes & Ears refuse to perform their Office. & the patient even becomes insensible to a ~~red~~ red hot Iron applied to the Feet.

at the Approach of the hot Fittde a morbid Sensibility takes place to Light

&c. Convulsive Tremor, & a Train of nervous Symptoms appear in ye cold Fitt.

First is common to all these 3 Stages but is generally greatest during the hot Fitt.

Pains are felt in ye Head - Back & Knees - they begin in the cold Fitt but are most violent in the hot Fitt, & generally keep place wth Delirium & a throbbing of the Temples.

Death for the most part happ: in the cold Fitt, or if it is in y^e hot Fitt some Symptoms of the cold Fitt re: turn again.

These Symptoms are all greatly diver:

=nified all Idiopathic Fevers have gene=
=rally more than one or two of these
Paroxysms if they terminate in an
entire Apyrexia they are called In=
=termittent, but if they do not they
are called Remittent. if it is diffi=
=cult to distinguish the Apyrexia they
are called Continuals.

Fevers are likewise distinguished by
Circumstances of the ~~Paroxysm~~ Paroxysm
— the Pulse. Respiration & Tremors
vary in the cold Fitt together w^th: the
sensations. the Heat & Thirst vary
in the hot Fitt together w^th: the whole San=
=guiferous System.

These are the general Facts in

the History of Fevers & lead us natu:
:rally to the Investigation of their prox:
:imate Cause.

This is a very Abstruse Inquiry nor do I
pretend to remove every Difficulty y:
will occur in this Investigation.

I shall Omit taking Notice of the
general Theories of Fevers w: have hi:
:therto prevailed in Our Schools. When I
first began to teach Physic in
this University my Colleagues & Spec
of Pharm: w: a kind of Horror, &
looked upon me as a chemical Inno:
:vator or a mere Paracelsus, but
now Most of them have embraced it.
even Vanswieten himself has reje:

=ted the notion of Fevers depending upon an Affection of the Fluids. Vpo=
=relli & Hoffman first pointed out to us that Fevers depended on ye primary Affection of the nerves, but I shall take no notice of their Opinions, & deliver my own as plain as I can.

The Lassitude the Stupor - the Drowsiness & Coma all show us that the Sensorium is Affected in the first Attack of Fever, & depend upon a diminished Energy of ye Sensorium this diminish'd Energy extends even to the Heart hence the small weak pulse & the paleness of ye Skin.

The Blood vessels especially the

Arteries are contracted distant from the action of the heart, & while ye Extremities of the Arteries are contracted, hence the Suppression & Obstruction of all the Secretions. this Constriction may be accounted for from the simple Elasticity or Contractility of the Extremities of the Arteries without having Recourse to an increased Influx from ye Sensorium.

While the ~~Blood~~ small Arteries are thus contracted the Blood is accumulated in the larger Arteries hence the difficult Respiration &c which we spoke off before. the Increased Action of ye Heart does not depend upon ye Stimulus of this accumulated Quantity of Blood, for its Sensibility is greatly demimished. —

These Phanomena are succeeded by a considerable Increase of the Hearts action. the Pulse becomes stronger & fuller, & this is occasioned, in some measure by ye cold Fitt. But in w^h manner? this is a very difficult Question. we must refer it to the vis Natura Medicatrix w^h disposes the System to recover its Ballance when destroyed. I do not suppose this vis Natura Medicatrix depends upon ye action of a rational Intelligent principle, nor upon a mixed Action of the Soul & Body as Dr Gaubius has done ~~supposes~~, but Imagine that it depends merely upon the Mechanical Operation of our Constitution & flows from w^h is called physical necessity.

2nd this ~~Datum~~ Phanomenon may be illustrated by

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a familiar Analogy. Sedatives take
off the Excitement of the Sensorium
but when taken in a moderate Degree
rather excite the action of ye Sensorium
which tends to remove the Sedative
Impressions induced by the narcotic
medicines.

Does the diminished Circulation of ye Blood
in the small Arteries induce Cold, and
a Constriction. ? Does this Sensation of Cold
produce the Reaction of the Sensorium?
this ~~occasions~~ has been maintained from Cold exciting the ex=
=cited action of the System, & inducing
all the Phenomena of Fever. Cold then
must
be a necessary step in exciting the incre=
=ased action of the System. But Some Doubts

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may be offered to this Conjecture. all the active Hæmorrhages are preceded w a sense of Horror & Cold. now Hæmorrhages are generally attended w th Congestion & this is most evident in y e Face before the Eruption of Blood from y e Nose. After Child Birth too we see a Fever attend the Congestions w ch are formed in the Breasts previous to y e Secretion of Milk. we see Congestions in y e Rheumatism & Angina before the Horror & Other Symptoms of Fever come on. I have seen a bilious or calculous Concretion bring on the Symptoms of Fever. in all these Cases the Congestion the Sensorium was excited to remove an uneasy Sensation

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Now all this tends to show ye ye Reaction of the Sensorium does not depend upon Cold, but that the Phænomena of Fever depend upon the Reaction of ye Sensorium already began. hence we often see Fever exacerbated without any cold Litt. — But why does the cold Litt so often ~~do~~ necessarily intervene? — I do not think it a necessary Intervention altho' it is conducive to bring on the Symptoms of Fever especially the encreased Action of the Heart & Arteries & hence the Reason why cold Bathing has been found so useful in certain States of Fever. The Cold then is rather a part of the hot Litt, & occurs in ye Reaction of the Sensorium in wch ye hot Litt exists.

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This is the Reason why the more violent ye Cold Fitt is, the sooner the hot Fitt is formed, & the sooner the Paroxysm is terminated by Sweat, & why ye most dangerous Fevers are generally ushered in wth Little or no Chilly Fitt. Remitting Fevers where no Apyrexia appears are more dangerous than Intermitting Fevers from the Circumstance of their being attended w: no cold Fitt. Those Accessions of Fevers w: prove critical are always introduced by an evident Cold Fitt. I conclude then that the Cold Fitt of Fever depends entirely upon the Reaction of ye Sensorium.

I do not pretend to explain any further the Reason of the cold Fitt. we must refer

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it to a general Law of the System, or to the vires naturæ medicatrices. it depends we said on the Reaction of ye Sensorium.

the Sensorium is a Centre of Motion, but has no Motion in itself. all ye Actions of the Sensorium then arise from Impressions made on it, so that ~~the~~ every Action of the Sensorium ought to be considered only as a Reaction. to illustrate this still further we must consider the Operation of Sedatives in a more extensive manner. Sedatives then do not act on ye Centre or immovable part of the Sensorium, but act partially only. the part then on wch they do not act reacts again in a short time, & thus restores the whole to an Equilibrium.

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Cold is a sedative of this kind. when applied to the Feet it induces a desire to discharge ye Urine & Faces wch may depend upon the Reaction of the Medulla Spinalis, upon wch the Cold at first exerted its sedative powers. Not only the Cold is an active power of nature, but even the Tremors likewise & hence we always find them proportioned to the Action of the Heart & Arteries wch afterwards follows. Altho' ye cold Fit depends upon the Reaction of the Sensorium, yet I will still allow that it may, when bro't on have some Degree of Stimulus wch may contribute towards exciting the Action of the Heart & Arteries.

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The Resistance to be overcome by the Sensorium when ye Cold is induced is a Spasm on the Extremities of the Capillary Arteries. an Atonia of these vessels disposes to the Production of this Spasm wch Atonia is brō't on by the want of Antagonist powers or the Blood being propelled in to them. this Atonia is always greatest in proportion to the Distance of any part from the Heart, hence the Reason why the Surface of ye Skin is the chief Seat of Spasm. this Spasm continues for a considerable time during the hot Fitt. I am a Suppose ~~this Spasm~~ it constitutes the Fever & that when this is overcome the Fever is cured. this was formerly my

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Opinion, but we often see a Debility & want of Excitement of my sensorium & precede the spasm, this must be removed before we cure Fevers. The hot Fitt is brot on by the spasm & is supported by it, it is therefore a necessary Intervention in y Cure of Fever. The spasm then is not y Disease itself altho' the Cure of Fevers depends upon the Removal of it. The spasm then is neither the fundamental Disease nor yet the Removal of it, but is the Effect of the first & Cause of the last. Fevers therefore consist of 3 parts Debility, spasm & increased action or hot Fitt. I will not

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say how Debility brings on Spasm or how Spasm brings on a hot Fitt.

the Continuance of each these are estable:
:shed by certain Laws of the Oeconomy.

— the first Exertion of the Sensorium will be in encreasing the Action of ye Heart & Arteries. these will react on the Sensorium & contribute towards its Excitement which enables it at last to overcome the Resistance on ye Extremi:
:ties of the Arteries. the whole Cure of Fevers then consists in restoring the Energy of the Sensorium. it begins to its Reaction itself; this we prove from the Phaomena of Syncope, but a proper State of Excitement is brot on by the Action of ye Heart & Arteries.

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This finishes our proximate Cause of Fevers
. we have found it consist of 3 parts Debi:
=lity Spasm & hot Fitt. they all depend
on each Other & succeed each Other in
the Order I have mentioned. the first indu=
:ces the second, & the second the last. I do
not say each of these Stages we have been
speaking off subsist seperately. they Otherwise
:ist all at Once and are confounded with
each Other. Fevers then consist in 1 an en
:creased Heat, 2nd encreased pulse when they follow
Horror or a Chilly Fitt. for unless they
are preceded by this, they cannot belong
to the Class of Pyrexia.

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The Spasm may arise from many Causes on wh: the variety of Fevers depend. It may depend 1st upon Congestion i.e an Afflux of a greater Quantity of Fluids than can be transmitted thro' y Blood=vessels. This kind of Spasm occurs in Ha=:morrhages. 2nd upon acid Matter found upon the Extremities of the nerves as in y Exanthemata. but I doubt whether Spasm takes place here. a Congestion formed I grant wh may perhaps occasion a Spasm not only in the part where y Eruption appears but all over the System. I re=:turn now to consider our first Order or what is properly called Fever.

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It is the different states of Debility spasm & hot Fitts w:ch occasions the different Genera of Fevers. the Duration of each paroxysm of Fever depends upon the Nature of the spasm. a Fever is seldom terminated by one Paroxysm w:ch depend upon the Laws w:ch first induced the Fever still continuing in ye System. here I must define two Terms viz: Interval & Intermission. the Interval is from ye Beginning of One Fitt to y^e Commencement of another the Intermission from y^e End of One Fitt to y^e Beginning of Another. The Shorter the Paroxysm the Longer the Interval, & the Shorter the Interval the longer the Paroxysm. thus the paroxysm of a Quotidian is 10 hours. of a

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Tertian 8. & of a Quartan 6 hours. I speak this at a medium. there may be ~~way~~ many Exceptions to it. there are ma=:ny Causes wch protract their paroxysms. thus a Feitt may be protracted beyond 24 hours, & in this Case the Fever loses ye name of an Intermittent. there can there=fore be no Intermission if a Paroxysm wn=:times beyond 24 hours. Our System is perpetu=:ally undergoing Changes. the vital principle in the Sensorium is always rising & falling in its Oscillations, but appears to be in its two Extremes Once at least in the 24 hours. this must be resolved into the vicissitudes of Sleeping & waking. any Labes

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then disposing to Fever will from these Revolutions of our System be liable to in-
-duce a Return of a Fever again. hence we find they generally return at the period
- thus Quotidians come on in ye morning
- Tertians about noon - & Quartans in y^e
afternoon. every Paroxysm then of Fever
must run its Course in the 24 hours &
suffer at least some Remission. unless
ye Intermission intervenes in ye 24 hours
they cannot occur at all, but from ye force
of Habit & ye vicissitudes we spoke off the Fever
goes on to be renewed every 24 hours. but
this seldom happens, & therefore I believe
there is no such things as Continual Fevers. -

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This I apprehend from Observation as well as from Reasoning a priori. this therefore shows ye propriety of wt we said before. the longer the Paroxysm the shorter the Interval & vice versa. the Continuance of a Paroxysm will depend too upon ye greater or lesser Action of the Spasm. & this will be influenced by Debility in its different Degrees. the greater ye Debility the less the Spasm - Chilly Fits - Horror - Tremor &c. this Case occurs in the Nervous or Malignant Fever. but in Intermittents the Debility is less - the Spasm more active & hence the Paroxysm becomes shorter.

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Let us now consider Pyrexia as accompanied w.th Phlegmasia. here is no Debility taking place. the Spasm is generally proportioned to the Irritation.

But why is not each Paroxysm in this Case terminated sooner? Because the Congestion occasioning the Spasm is not easily removed. hence all Inflammi Fevers are of the continual kind. in the Congestions preceding Hæmorrhages the Pyrexia always continues till the Congestion is removed. In the Congestions tending to Suppuration the Pyrexia ceases when the Fluids are effused but not before as then only y.e Congestion is removed.

The Inflammatory Spasm (for such I shall call it) differs widely from ye Inter:-mittent Spasm in not being attended w: the so great Horror - Tremor. the Inflam: Spasm is often topical, & consists in an encreased action of the vessels near to ye place where the Congestion is formed. this Spasm communicates an Inflam: Diathesis to the whole Arterial System. But in Inflammatory Fevers, the Action of the Sensorium is communicated chiefly to the Heart primarily & not to ye Arteries as in the Case of the Phlegmasia. In every Spasm there are 2 Circumstances to be con-:sidered viz Constriction & Irritation.

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The 1.st produces the last, in such a manner as to stimulate the Sensorium & w: reacts again upon the Arterial System. These are not always proportioned to each other. When the Constriction is more violent than y.e Irritation the Paroxysms will be long. The Reverse Case gives shorter paroxysms. The violent Constriction occurs in Inflam.y Fevers. hence Intermitting Fevers when they partake of the Inflam.y Diathesis are so easily changed into contin.e Fe=vers. Every Irritation applied to the Arterial System encreases the Spasm in an equal Degree. Thus Cold excites In=flam.n in the Arterial System, & of such

a Degree as to be difficultly resolved. This then gives us another View of y^e Reason why some Paroxysms of Fevers are longer than Others.

Here a natural Question arises. if a Pyrexia arises (tho' not from Debility or Phlegmania) what shall we call it? such a Fever is excited by cold-Bathing. But this a transitory Affection & should not be admitted so as to form an Order. If ever it is permanent It is accompanied wth Lurpsine or Fever, but this being, it back to the Fevers arising from Debility or arising from Congestion being previously formed before the Body is exposed to Cold. Do not direct stimuli produce

Pyrexia? if they do it is by first ex-
-citing Congestion w: reduces it to the
Phlegmasia. But what shall we say
to Exercise Insolation - & various acrid Stimu-
-li taken into the Body? I much doubt
whether such Stimuli act directly in
producing Fever. They produce a Debility
which disposes the Body to be affected w:
Fever. the Insolation acts by exciting
topical Inflammation. acrid substances
thrown inwardly produce general Conges-
-tions & therefore the Inflam: Spasm.
does not an undue or an inordinate
quantity of Food produce Fever? I
shall answer this Question hereafter

I conclude therefore that there is no Foundation for establishing a new Order of Pyrexia distinct from Debility or Congestion. a moderate Degree of Debility w: any Irritating Cause ~~to~~ induces ~~the Heart~~ a Spasm w: irritates the Heart only & produces Inflam: Fevers. &c.

I believe there are but two kinds of Spasm viz: the Inflam: Spasm & that arising from Debility alone. the Spasm in the nervous Fever dont depend on Debility alone. great Debility occurs in Intermit: Fevers. I suspect therefore that all nervous Fevers have

§ This is confirmed by an Observa-
: tion of Dr Cleghorn who tells us
y: in all Interm: Fevrs w: became
continual he discovered evident
Marks of Inflamm: after Death.
Dr Pringle's Dissections tend to confirm
the same Opinion. —

some thing of the Inflamm.y Diathesis.
- most of the putrid Diseases show
us marks of Inflammation before &
after Death. This may arise from
Contagion acting as sedative & inducing
Debility & as Stimula.s & thus inducing
Inflammation. Some of them begin w.th
Inflamm.y Appearances, but from repeated
paroxysms change into the nervous.
Intermittents sometimes begin w.th In=
-flam.y Symptoms, but as ~~the~~ this
Inflamm.y Diathesis goes off they become
more regularly intermitting. all Fevers
then of long Continuance are attended with
more or less of the Inflamm.y Diathesis.

Intermitting Fevers are the Only Cases where no Inflam.n Diathesis appears. From this then we derive a very general Division of Fevers. May not Contin.t Fevers depend on Debility alone? no — where Inflam.n Fevers become Remitt.g or continual, it is owing to some Stimulus being applied. It may perhaps in some Cases form a Remitting Fever, but never can form a continue. It is then the Absence or Presence of the Diathesis Phlogistica that gives us the difference of Intermitting or continual Fevers. It were to be wished we could distinguish Intermittent & continual Fevers from each Other at their first

Approach. the general marks of an Intermitt.t Fever are 1.st an Epide=
=mic Constitution of the Year 2.nd from y.e
greater Degree of Lapitude 3.rd from y.e
longer Continuance of the cold Fitt
4.th from a quantity of Bile being
discharged during the Fitt. this may
depend upon the long Continuance of
the Spasm determining the Blood to
the Viscera, more especially to the Liver w.ch
promotes an encreased Secretion of Bile
which we know by vomiting. 5.th from y.e Degree
of Remission which is always longer y.n
in Continual Fevers. this mark is always

more certain when the Urine drops a latericious Sediment, as this shows that the Spasm is taken off from the Extremities: 6ly from the Exacerbation w:ch in Intermitt.g Fevers are always attended w:th more Horror than in Continues: :als. we are more surely determined that a Fever is Intermitt.g when y: Exacerbation appears in the Morning. But sh.d the Exacerbation happen at any other time of the day it does not follow y: It is not intermitting. Not:withstanding all these Marks Intermittents may so far resemble continual Fevers as to change their very Nature inasmuch

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that they require a very different treat=
=ment as we shall say hereafter. Let
us now enquire into ye Circumstances
wch give a Presumption of a Fever being
continual. These are 1st the Fevers
having arose from Causes of Inflam=
=mation whether Occasional or predis=
=posing. the ~~latter~~ former Causes occur in
cold Climates & Seasons. the latter
are Stimuli of all kind. to these we
may add warm weather succeeding Cold
- Irritating - high seasoned Food &c
2nd the actual Symptoms of Inflammatory
Diathesis such as a hard pulse. high

coulourd Urine the worst any Sediment & dizy Blood. none of these occur for the most part in Intermittents. these Distinctions will appear of great Consequence when we come to ye Cure of these Fevers.

I admit then of but two Genera of Fevers the Continual & Intermitting. the Continual are such as are without any remarkable Remission.

the Intermitt.^g are such as are attended wth evident Remissions & have a Horror attending their Exacerbations. the last of these marks I grant is not very absolute or universal.

Let us now attend to the Subdivision of these Fevers.

The Continuals I said were attended w.th Diathesis Phlogistica. But they are greatly varied by different Degrees of Debility. Some of them are ushered in w.th this Debility - by great Stupor - Coma - vomiting - low weak & slow pulse. These are what are called by English Physicians Nervous Fevers. The slow pulse is not essential to this Fever, nor yet a rapid mode. rate Degree of Heat w.ch Sauvage takes into the Character of this Fever. These Marks apply however in general to all the Gradations of Typhus in Sauvage.

The Frequency of Pulse when very low is Pathognomonic of the Nervous Fever & always indicates great Debility.

The Inflammatory Fevers are attended wth less Debility - less Affec:tion of the Sensorium & more of the Diathesis Phlogistica. to distinguish these from the pure Phlegmasia I shall call them Synocha.

Some Fevers are Synochous in ye Beginning & Typhous in their End. - this depends upon ye Repetitions of Paroxysms wch increases Debility. we find that every increased State of

Excitement ~~[illegible]~~ brings on Debility. this is evident in the Case of Sleep w.ch succeeds Exercise or every thing w.ch excites the Sensorium. - But tonical Affections of y.e Brain w.ch are produced in y.e progress of Fevers may have a considerable share in inducing Debility. we ~~[illegible]~~ want a term to explain this intermediate State of Fevers between the Synocha & Typhus.

What shall we say to putrid Fevers? ~~[illegible]~~ the tendency of our Fluids to Putrefaction occurs in Inflamat.y Remitting - & Inter.

-mitt.g Fevers. no Distinction of them
can be taken from Putrefaction.
all Fevers from increased Heat-
motion & Debility tend towards Pu=
=trefaction, but those Fevers w:ch are cal
Putrid may be distinguished from
common Fevers. the putrid Conta=
=gion generally affects in such a
Manner as to appear most in
continual Fevers. & those too of the
Nervous Kind from the Sedative power
of the Contagion. putrid Fevers
likewise begin w:th Inflamma:y Symptoms
from e Contagions acting primarily

as a Stimulus. — After a while these Fevers become nervous which may arise from a putrid Contagion multiplying itself in such a manner as to exert Sedative Effects.

— They are further distinguished by great Debility — dissolved Blood — Haemorrhages Petechia — high, cou: loured Urine — loose Stools & colliquative Sweats.

The Combination of the Inflam: w: the Nervous & putrid give the most common Genus of Fevers.

We are oftentimes at a Loss to deter:

=mine whether Phlegmasia or Fever
are primary Diseases. they often
produce & succeed each Other. to
distinguish these from one another
we must 1st attend to y^e Season
of the Year. in the Spring the Phlegmasia
is the primary Disorder. in the
Fall the Fever. 2:nd If the Phelgmasia
appears some Days after the Fe=
=ver comes on I would conclude the
Fever to be the primary Disease, &
vice versa if the Fever comes on after
=ter the Phlegmasia. 3:rd Fever is
distinguished from Phlegmasia by the

prevailing Symptoms of Debility
w:ch seldom or never occur in the
Phlegmasia. 2:d the Phlegmasia is very
generally known to be a primary
Disease from the common Symptoms
of Inflammation.

5:th Fever is distinguished by regu:
-lar Exacerbations w:ch seldom or never
occur in Inflammatory Diseases.

There is another seeming
Complication of Fever w:th Exanthemata.
These are sometimes excited by
Contagion & sometimes are the
Consequence of Fever. the Petechiæ
w:ch are Effusions of Blood do not

belong to this ~~Dis~~. Order, but are always Symptomatic & are generally produced by Pathelaction. The small pox & Measles depend on Contagion introduced, & therefore do not form an Instance of the Complication we are speaking of. There are ~~other~~ warm Disputes carried on between De Haen & some Other Physicians in Vienna concerning this exanthema-tous Fever. The former supposes that they depend on ye warm Regimen only. The latter assert that they depend on Contagion in ye same Manner

as ye small pox. I do not think that they are the Offspring of Fever alone as De Haen imagines. they are certainly of a contagious nature, notwithstanding they were never Observed till the last Century for many Diseases have prevailed for many Years the want being described by Physicians. Still I allow that many Fevers by a fowcating Regimen may terminate in a Miliary Eruption. but this Eruption never changes to an opake purulent appearance like the pure Exanthemata. this Observation I grant is liable to some Exceptions. all Miliary

Eruptions are accompanied wth sweat=
=ing. now we may suppose a peu=
=liar state of System & skin wch disposes to
miliary Eruption. This is ye Case in
Child Bearing women who always
in this Country have a Miliary
Eruption when I have been con=
=fident no Contagion of any kind prevai=
=led among them. There is an Abortive
Fever wch I cannot describe wch always
attends these Miliary Eruptions wch
are the Consequence of Fever. a Miliary
Eruption attends many putrid con=
=tagious Fevers, but as all are not
seized wth them, & as it does not

break out always at a precise time, I imagine no miliary Ferment was introduced but y: the Eruption depends upon y: great Disposition w: their Fevers have to sweat. In this manner therefore would I compromise the Disputes at Vienna. upon the whole I am most inclined to embrace De Haen's Opinion I dare not determine w: Fevers depend on Contagion. —

Having discussed these 3 Genera of Fevers I shall now proceed to the 4th & last Genus viz: the Profluvia. I cannot here comprehend Hæmorrhages

so universally. When a Fever occurs in Hemorrhages it is owing to something particular in certain Constitutions. I shall confine myself then to the Profluvia. Sauvage ranks several of the ~~Cl~~ Profluvia among the Fevers which do not belong to them properly. do Catarrhs belong to the Profluvia? I shall arrange them under this Genus. The Catarrh is a Symptoma Causa. & is produced by ye same Causes which produce Fever. they often depend upon matter introduced into the Body as in the Measles & Other Exanthematous Fevers. these kind of Catarrhs are to

be resolved to the Genera of Fevers, but when they arise from Cold they more properly belong to the Genera of Rheumatismata. all the Anginas Coughs &c which are attended w: th Exanthematous Eruptions belong to the Genera of Fever or Exanthemata.

Besides all these there is a Genus of Pyrexia not yet reduced to any Order that is the Hectic Fever. this Disease suffers Exacerbations at the diurnal Periods Our Pulse is slower in the morning increases till noon, towards Evening becomes slow again & a little later becomes quick. the Hectic Fever is

increased remarkably at each of these Periods. Is there any Idiopathic Hectic Fever? not connected w: topical Affection? no. It always arises from some topical Disease, & is never Idiopathic. Sometimes it is difficult to distinguish & point out the topical Affection, nor can we always tell how it excites a Fever when we do perceive it, but from Analogy we may conclude the Hectic Fever always to occasioned by it. Upon the whole then I conclude y: the Hectic Fever ought not to be a seperate

genus of Fever. It generally depends upon an inflammatory Congestion especially when it arises from a Suppuration in the Lungs. Matter is likewise Absorbed from Ulcers which we know irritates & weakens the System. & from hence arise Hectic & profuse Sweats.

This finishes all I had to say concerning the General Division of Fevers.

I come now to treat of the remote Causes of Fevers. Remote Causes

The proximate Causes of Fever are have said an Debility & Congestion.

generally speaking. for there is no Principle in any Science much more Physic, but it is liable to Exceptions.

The chief Causes of ~~Do~~ Fevers are

1 Extraneous Bodies introduced.

2 Debilitat.g passions of the mind.

3: the Action of Cold.

The Introduction of foreign Matter is the most general Causes of Fever. these Matters are either Miasmata or Contagion. the Miasmata are certain particles arising from morbid Bodies

of men. Contagion arises from
2/y Bodies of men likewise & reproduces itself. I shall first speak of
1/y Origin of Miasmata 2: only speak of
their Diversity & 3: treat of their
Operation in Conjunction w the Other
Causes in producing Fever.

1: Origin. Miasmata are owing
to Heat & abound most in warm
Seasons & warm Climates. They are
mostly destroyed by Cold. The Plague
always ceases to rage in cold Countries
upon the Approach of winter. even
the Catarrhus Synochus is checked by Cold.

I conclude therefore that miasmata are produced by heat & are by Offspring of Fermentation. they are not always of a putrid nature as some suppose. the small pox depends upon a Ferment but is not a putrid Disease notwithstanding. the most powerful Miasmata are generated too in animal bodies. Mephitic Air we know exhales constantly from Animals that breath. perhaps too Mephitic air exhales in Perspiration. now this Mephitic Air is highly sedative,

& take off ye excited state of the Insorium, at once. a Diffusion of this Mephitic Air in ye Atmosphere tends to destroy its Virulence. But if it is long retained in ye Cloaths & accumulated it acquires a peculiar virulence & becomes capable of affecting Animal Bodies. The Histories of Jail & Hospital Fevers tend to illustrate & confirm this Doctrine. Fevers will be greatly varied by y^e Different Men from whence y^e Miasmata come - by the Season of the year by y^e Climate & by several other Circumstances of y^e Nature.

these Miasmata Multiplie them=
selves in the human Body, & produce
a Contagion capable of producing
the same Disease again. When they
become Contagion they acquire a
particular power, of affecting those
whom the Miasmata did not. But
there is Another source of Miasmata
arising from all Other Animal Sub=
stances. They are not always the Offspring
of Putrefaction. or the Anatomists w^d:
be most subject to putrid Fevers who
are so much conversant w^th: putrid
Animal Bodies. nor do Experiments pro=

Place putrid Sewers or ye Inhabitants
of Edinburgh w.d soon be carried off
th w.: them. I do not think w.th Dr Pringle
that the human Faces have Anti=
septic powers. There is then a certain
stage only in putrefying Animal Substan=
=ces in w.h they can produce putrid Fevers.
upon the whole we know of no
Exhalations but from Marshy
Ground that produces Fever. w.h is
the Nature of these Exhalations?
the Sea & Lakes send forth no morbid
Exhalations. the Inhabitants of
Egypt are never subject to the

Plague but after the Recess of the Nile. How do these Exhalations operate? I have sometimes thot merely by the Cold generated by Evaporation, but if this was ye case Lakes & Seas wd produce Fevers as well as Marshy Ground. It appears rather to be owing to the semiliquid state of the Fluid retaining Miasmata in such a manner as to suffer them to be raised by Heat. Water seems rather to destroy them. We know but little of the Nature of these Miasmata. Lancisi says they are Organized & Inorganized

many have Attributed a great share to the Organized Miasmata in producing Fevers. But this is merely Hypothetical. Putrefaction we grant generates Animalculæ. but Heat & Moisture may produce morbid vapours and Animalculæ at the same time, without the latter having any share in producing Fevers. Besides we cannot suppose these Animalculæ can multiply themselves in y human Body unless we suppose the same process to go on in the Body as first produced them. I conclude then all Miasmata

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2: Let us now enquire into ye Diver-
sity of Miasmata. There is a Foundation
for dividing them into Species. We
see them Operate uniformly on
all Constitutions in all Ages & in all
Climates in the same way. I do not
think the Diversity of Contagions so
great as Dr. Sydenham supposes. The
Exanthematous Fevers show us ye: they
are very much limited. all
our Acquaintance w:th Diseases in all
parts of ye World has yet found out
but 10 different Genera of Contagion including

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to Sauvage. But even this Compu=
=tation is too extensive. I think they
may be reduced to 3 or 4. But even
supposing they dont exceed 10 Genera
they are very much limited. many
Fevers supposed to be different Genera are
varied rather in Degree than kind from
the Ferments (w: arise from Anim: Bodies)
being retained longer or shorter in the
Bodies it exhaled from, or from Circum=
=stances of a like nature, by w: means
y Ferments are more or less
exalted to use y Language of our Schools.

× many Circumstances diversifie Con=
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independant of the different Degrees of Virulence in the Contagion. these Circumstances are 1 the Constitution of the patient this is most evident in the Small pox. we often see the same Matter produce very different pock in different Constitutions. the Nature of Epidemicks shows likewise how much y^e Diversity of Contagions depends on y^e Difference of Constitutions. Some of these Epidemicks we see affect Children only, Some men & women. while Others affect Persons of a particular Country only.

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2nd The State of the Air varies the Operation of Miasmata. warm Air destroys the Contagion of Mea: sles in some Measure. & Cold Air destroys the Miasmata &c: produce the yellow Fever. Dr. Sydenham has pointed out how much Epidemicks are influenced by the different Sensi: ble Qualities of the Air. He indeed attributes it to a Specific Difference in the Contagion but I think all y variety of his Epidemicks may depend upon y Causes we have been treating off.

Dr. Cheyne Dr. Lofti Lancisi
& Celius Aurelianus who wrote
in different Ages all agree in deseri=
bing the Tertian Fever as y^e same
Disease & varying in y^e same Manner
by Changes in the Air & y^e Other Circum=
stances we have spoke off. in the
same Manner the Bilious Fever
appears to be y^e same Disease in
all Ages & Climates. this I prove fr
its always being produced by y^e same
Cause viz. Exhalations from Animal
Bodies or Marshy Ground. Books are
apt to mislead us in their Histories of

Epidemicks. It is but within these
100 Years that Author have wrote
w any Precision or Accuracy on
this Subject & the more precise &
accurate they are the more we are
convinced of the restricted Number of
the Genera & Species of Fevers.

3.d We come now to enquire into
the Operation of Contagions.
. Their Operation is very limited.
they dont affect Persons universally.
nor Families nor Cities. . This
may be owing to several Causes such
as 1.st Contagion is not always applied

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to every Body or at least in too weak a State. It is necessary Contagions should be concentrated before they can produce their Effects. In this it bears a strong Relation to Miasmatic Air & Exhalations in general, which always act in proportion to their Degree of Concentration. we have many proofs of this being the Case. the Plague is not communicated to an adjoining House unless there is some Intercourse by Furniture or Cloths or Something of a like nature. Dr Lind's treatise on Fevers & Infection is full of Facts

of this kind. the Contagion must adhere to something in order to concentrate it sufficiently to be propagated. Physicians seldoms convey Contagion merely because they stay too short a time in their Patients Chamber to carry away any Degree of particles with them. all this tends to show the Reason why so many escape Contagious Diseases while they are prevailing. But another Reason must be assigned why Persons escape Contagions who are exposed to it. Other powers must concur to give

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the Contagion in its full force. w^h are these powers? the Passions of Grief & Fear are the chief. hence all Epidemicks affect more Peo= ple in their Beginning than after they have continued for some time upon y^e Acc^t: of Mankind being more used to the Terror of them. we see too from Persons most subject to Epidemicks who are most afraid of y^m: - both these Passions act by inducing Debility. another power is to be called in is the action of Cold. Dr Lind's Book is full of proofs of this. Does ye Cold

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act by inducing Debility or a Spasm?
I shall shew hereafter perhaps in both ways. Every thing else that tends to bring on Debility such as Venery - Inebriation - Exercise - Crapulais &c tends to favour the Operation of Contagion. in all Epidemicks the Concurrence of these exciting Causes is necessary to promote the Operation of Contagion, & this is ye Reason why so many people escape contagious Diseases. Some Contagions I grant act independant of these exciting Causes, such as ye Small pox.

In some Cases too it is difficult to tell when the Concurrence of exciting Causes is necessary. It will often depend upon the virulence of the Contagion & the vigour of the System to wch they are applied. It will be greatly influenced likewise by Contagions affecting the Fluids. When Contagions act as Ferments they require the Concurrence of no exciting Causes. Hence the universal power of Exanthematous Contagions wch act as Ferments upon the Blood. Fermentations wch have a less assimilating power require the Assistance of the exciting Causes.

Even those Contagions wch act universally

as Ferments may in some Cases require exciting Causes especially when they are not sufficiently concentrated.

3.rd Contagions are still further restricted by the Bodies being in certain Conditions capable of resisting their Operation. these Conditions occur in certain Ages. Sexes & Temperaments. y History of Epidemicks is full of proofs of this Fact. the yellow Fever affects none but Foreigners. the Negroes Dilimingo are never subject to it. they must therefore have something in their Constitution w.ch resists the Operation of Contagion. Some Persons too are more disposed

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to particular Diseases than Others.

Thus the Inhabitants of ye West Indies are often seized w: the Diseases of their Climates even here in Britain.

How does the Body resist the Operation of Contagion? It may depend 1st upon a Vigour of System w: qualifies it to resist all the Causes of Debility.

2 Upon a certain State of the Fluids fitted for certain Fermentations.

One Reason why Foreigners are more subject to ye Yellow Fever than ye Natives may be owing to their Fluids not being so far advanced towards Putrefaction as the Fluids of those who have long been exposed to the expansive Heat of ye Sun.

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3 It may depend upon ye power of habit. all Impressions have their force weakned by Repetition. If men have a certain Vigour of System escape the expecting Causes they become so habituated to the Contagion that it requires a powerful Quantity of it to affect them. It is from this, that Physicians & Nurses are seldom affected w: contagious Diseases. May not the Reason why People are seized w: Contagious but once in their Lives be owing to ye Force of Habit, or to their Nervous System being once affected w: by Contagion? But to this we must add ye: Fluids are capable of fermen: but once.

1st It may depend upon Persons being exposed to Odors of a particular nature wch prevent the Action of Contagion. We have many Facts wch tend to confirm this Conjecture. The Influenza wch prevailed so universally in ye year 1734 never affected the People confined in the Goals of Dirn, wch I believe was owing to their being Surrounded wth Odors of a peculiar nature.

Let us now speak of ye Other Causes of Fever. Viz Fear & Cold

Fear. This act powerfully in inducing Debility. It some times produces Fever

of a permanent Nature.

Cold. You all know ye modus Ope-
randi of this Cause. I shall only
inquire whether Cold is a frequent
or only Cause of Fever? From the
Phaenomena of Cold Bathing it appears
probable. But its Effects here are
very transitory unless Fear & Surprise
concur w:th it. I believe it seldom
produces a permanent Fever alone.
For ye in most Cases where we are sure
of its Operation we see nothing but
Catarrh & Rheumatism & never
a proper Fever. Even in those Cases
where ye Cold is suspected of acting

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alone. Other Causes may have cooperated such as Miasmitic Contagion for we often see Contagions adhere very long to certain Bodies, & yet excite no Effects upon the persons who has carried them About wth them. Unless they have been transferred to Other Persons or to Other Countries. Contagions are very tenacious in ye same Manner as Odors wch we know continue on Bodies for a 100 Years. Now as this is ye Case the Effluvia of Animal Bodies may be accumulated in the Cloaths in such a Degree as to act at Once when the exciting Causes we shall off occur

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more especially Cold. But further all
Countries have Marshy & halations
at all Seasons of the Year w: may pro:
duce an Impregnation of the Air to such
a Degree as to produce ~~Fever~~ Fevers
w: we attribute to ye exciting
Causes Alone. I conclude then that
Fear & Cold never or very seldom
produce Fever alone without some ex:
iting Cause joined w: them.

Are there no Other Remote Causes
of Fever? - If ~~they~~ are they act only
by inducing Debility. They are never
strong enough to excite Fever wth out the
Concurrence of Cold or Other Causes.

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But there are Other Remote Causes of Fever w:th deserve to be considered viz: the Various Affections of the Stomach. the whole System is affected by the different states of this viscus. It has a powerful Connection w:th the Extremities of the Arterial System where we know y.e proximate Cause of Fever is seated. we see in many Cases a certain state of y.e Stomach bring on Spasm & Pyrexia from Congestion. But it never brings on the Phlogistic Diathesis, but rather Debility. hence we see it most generally brings on

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Intermitt.g Fever. this is a very difficult Question & is some Blemish upon our Doctrine of Repetia. I consider it however as a Remote Cause of Fever. Crapulas Indigestions & particular Foods all bring on Fever but whether they all act in One way or have something peculiar in their Operation I cannot pretend to determine. —

~~Bruise I shall say further of Intermitt~~

Let us now speak a little concerning the different species of Fevers, & this we shall do by treating of the Nature of Epidemicks. —

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Epidemicks depend upon some Matter in Diet or the Air applied to a great Number of People at once. thus the Scurvy depends upon Diet, w:ch is a kind of Epidemick but must not be consider:ed here as it does not belong to y:e Fevers.

I shall likewise Exclude all Fevers produ:ced by Diet, as they are properly all of them Symptomatic.

I shall speak only of Epidemicks as arising from the Air. They may be produced either 1: By y:e Sensible Qualities of the Air, or 2: by y:e insensible Qualities of the Air. Dr: Wintringham

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attributes all Epidemicks to ye first Cause. Dr Lydenham imputes them all to the last Cause. Dr Boerhaave too I think leans to Lydenham's Opinion.

The Sensible Qualities of ye Air modify the Epidemicks arising from ye last Source. the Sensible Qualities of ye Air y: we shall speak off are Heat & Cold Moisture & Dryness. Heat & Cold have the chief & almost only Effects. Moisture & Dryness act by modifying the Heat & Cold by determining their Influence & varying their Operation. Heat produces the Diseases of Summer & Cold y^e Diseases of Winter. Heat joined w: the Moisture

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produces putrid Diseases. Moisture joi:
ned w: the Cold encreases its Effects by the
Evaporation induced as Chemistry tea=
ches us. Cold by encreasing the Tension
of the Solids gives Occasion to y Phlogis=
tic Diathesis, & hence Inflam: Disea=
ses are generally produced by Cold, &
prevail in the Winter & Spring. Heat
by relaxing the Arterial System takes
off the Inflam: Diathesis, & encreases
a putrid Tendency Altho' it may not
of itself be able to produce a putrid Fever
Without the Concurrence of Miasmata or
Contagion. By encreasing Perspiration
it makes y Humors Acid w: may

disposes them to putrid Fermentations,
or to be affected by their own Miasmata.
From warmth applied long ye Body
the Bile is apt to become acrid, &
to overflow in the Intestines, hence the
Reason why Cholleras are so frequent in
the Dog-days. Is ye Bile itself chang:
:ged or is its Acrimony occasioned by
Perspiration being affused to it? I
dare not here determine this Question.
- This Afflux of Bile into ye Intestines
should not always to be considered as
ye Cause of Intermittent Diseases; from w^h
we said before of Intermitting Fevers
it may be considered rather as an Effect than

a Cause of Diseases. Heat suddenly
raising on stimulates the System &
thus brings on ye Inflam^n: Diathe:
sis. hence the Reason why Intermitt:
are changed into continu: Fevers upon
the Approach of Summer. From all this
you see the Reason why Inflamm^n:
Diseases prevail in winter & spring
& putrid & Bilious in ye Summer &
Autumn. Heat favours ye Rise &
propagation of Contagion. Cold tends
to destroy it. It renders our Fluids
less apt to ferment wth Contagion. for
a further Acc^t: of the sensible Qualities
of the Air I would recommend to you

Dr. Winterringham's Epidemics but be careful to avoid embracing such Notions from him as will lead you to reject the Existence of Miasmata in producing Epidemics

I go on to speak of the insensible Qualities of the Air or of Miasmata. These are more important than those we have been speaking of, & affect a much greater part of Mankind.

Diseases depending on Miasmata are universally Contagious notwithstanding all Disputes that have been maintained to the contrary.

There are certain Specific Contagions which are endemic in some places & confined

from whence they may be propagated;
But we are uncertain of their true
nature & Origin. The Small pox Mea=
zles & a few Others are of this nature.
They are of a Stimulating & Sedative
nature, & are disposed to unite w.
Other Contagions. The Plague is a
Specific Contagion. This I prove from
its being always Endemic in Some
places. It has never reached Ameri=
=ca nor the East Indies. It is Always
peculiar to the Turkish Dominions.
It is not produced by the Customs of
the ~~Ea~~ ~~East~~ Turks, as some have Sup=

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posed for in many parts of Turkey it never has been known. There are many Diseases w.ch resemble the Plague in having Buboes - an Eruption & Carbun: cles from w.ch we may suppose that y.e Plague is only a diversified species of the putrid Diseases.

There are few other specific Contagions except these. The Yellow Fever however Fernagin is another species. It is certainly a contagious Disease & its Symptoms are widely different from the Bilious Fever. All the other varieties of Epidemicks are to be reduced to two.

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species only. such as are propagated by Contagion evident to our Investigation ~~by Contact~~ or from Fomes, or 2nd: such as depend on ye sensible qualities of the Air.

~~all~~ we shall first treat of those Epidemicks wch: arise from human & marshy Effluvia. I would restrict the Effluvia wch: produce Diseases among men to ye human species only as Brutes are never affected at ye same time wth: it, nor are mankind affected wth: the Epidemick Diseases of other Animals. we have Instances at Marseilles of Dogs licking the sores

of Persons affected wth ye Plague wch out receiving it from them.

Both these Effluvia from human Bodies & marshy Ground have 3 Effects upon ye Body 1st Sedative 2nd Stimulating & 3rd Septic. by the 1st they act on ye nervous System. by the 2nd on the Sanguiferous & by ye 3rd on the Fluids. the human Miasmata are more directly Sedative & have a Stimulat^g power joined wth the marshy wch makes them produce a continual Fever. their Septic powers are less evident. the Marshy Miasma is less Stimulating & hence

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it generally produces Intermit.t
Fevers. the human Miasma gives
the Nervous Fever w.ch in its Beginning
may be inflammat.y the Marshy
Miasma is less sedative, or it proves
so only by its Septic power or by
multiplying itself in the Body. the
septic power is sometimes combined
w.th stimulat.g & thus changes Inter-
mittingeinto continual Fevers. the Jail
Fever comes from human Miasmata
- the Yellow Fever arises from Marshy
Miasmata, & hence its putrid Disposition.
- the Camp Fever comes from y.e human
- the Marsh Fever from y.e Marshy Mias:

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mata I acknowledge notwithstand: y: it is very difficult to distinguish these Diseases from their Sources. in their fundamental Qualities they resemble one another, & according to Dr: Pringle may be combined toge: ther. See p: 296 of the 4th Edition of his Book. You will easily see from this how much Epidemics may be varied by y: different degrees of Sedative & stimulat: or Septic Qualities &c: Miasmata respect, or by different Miasmata being combined together. Miasmata are further varied by the sensible Qualities of the Air, or

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by the peculiar Constitutions of Men. Some favouring the Sedative others the Stimulating & others Again the Septic power of Miasmata. These Notions may appear theoretical, but they are founded on Facts, & will lead us to arrange Diseases in a regular Nosology as we shall see more fully in the Cure of these Diseases. I would not however push these principles w.th too much Rigour. there are One or two Contagious w.ch are of a Specific nature & are not reducible to any of these Heads. the 1st is the catarrhal Contagion. - it is disposed to associate w.th those

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Fluids wch furnish the mucus of the Nose - Bronchiæ & Fauces. it generally irritates & inflames the mucous Membrane of these parts & produces Angina Catarrhs & Cough. all Europe seems sensible of such Contagions from ye frequency of Influenza of late among mankind. I have seen 4 of them myself. Sauvage calls it Synoecha Catarrhalis, but has overlooked many Examples of it. It has at all times been contagious. it occurred in ye 1510 - & several times in the two succeeding Centuries, & is described by Hoffman Wintringham & Huxham & some Others. there is no Disease

effects so universally. the Miasmata
seem to be diffused in the Air, & propagate
the Disease almost without Contact, but
not so rapidly or at such a Distance as
some suppose. It generally appears
in the Winter Seasons, & has a good deal
of the Inflam.ty Diathesis joined with it.
an Obstruction of Perspiration is necessary
to bring on the Disease. It sometimes
prevails the worst bringing on Inflammation
on ye mucous Glands. in these Cases it
produces miliary Efflorescences. in ye
former it appears in this manner
It depend upon the warmth keeping
up the Determination to the Skin. may

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not all miliary Eruptions be the
Catarrh difficult modified by ye Heat
of Summer? w^h seems to favour y^e
this Supposition is y^t most Miliary
Fevers are attended wth Catarrhal
Symptoms. In all Cases where a whole
Family is seized at Once wth ye Cold wth word
the Concurrence of Cold & Moisture in the Air, I always
suspect the Operation of Contagion.
- there appears to be a catarrhal Con-
tagion always lurking About us. It is
now a well established Fact that the
Inhabitants of St. Kilda are all seized
wth a Catarrh in a few days After a
Stranger lands among them. -

There is another specific Contagion
sui Generis to be shewn off viz: the
Dysenteric Contagion. I believe it
always arises from Marshy Effluvia
but may require a certain Concur-
rence of a particular state of ye Bile
or of the Mucous of the Intestines
to produce it. we have y^e: most
undoubted proofs of its depending upon
Marshy Miasmata from Dr. Pringle &
Dr. Cleghorn. It generally coincides
w^th: the tertian Fever, or occurs at ye same
season w^th: it. of this we have a striking
Example in Cleghorn's Treatise of the
Diseases of Minorca. from this

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I am indued to believe that both Diseases depend upon the common Origin or upon the same Miasmata - we find they resembled & were changed into each Other, & were in a like Manner both cured by ye Bark. Dr Pringle has some Observations in S. 3. Ch: 6 part 3. wch tend to confirm this Opinion, Altho' he seems unwilling to draw the same Conclusion from them. a late Professor at Gotingen in a Treatise de "Morbo Mucoso" w^ich nothing but a Dysentery has likewise fully proved y^t the Tertian & Dysentery depend upon ye same Marsh Miasmata.

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In this view therefore the Dysentery is not to be considered as a specific Contagion, nor does it subsist at all times like other Contagions, but is annually produced. This Contagion when it is turned into a Dysentery nature however produces Dysenteries only from having undergone some Change in the Body, & not Tertians. This finishes all I had to say upon Epidemic Contagion. I shall briefly recapitulate all y^t has been said on this subject.

The Diseases produced by ye sensible qualities of the Air are very few. Pleurisies Peripneumonies &c are almost ye only

Diseases produced by ye sensible qualities of the Air.

Most of Epidemicks depend upon Contagions wch are Exanthematic & Catarrhal. there may be others wch have escaped my Reading & Observation.

Many Epidemicks depend upon Contagions wch are Occasional, wch may be produced at all times & in all places. they arise from ye human Body & Marshy Ground.

Epidemicks may arise from either of these, or from both combined together, or from either of them or both uniting wth specific Contagions.

Epidemicks will be varied by the

sensible qualities of the Air & by the different States of ye Constitutions of Men. all the Modifications ~~of the~~ of Miasmata & Contagion may be reduced to Sedative - stimulating & Septic powers, & all Epidemicks will be varied by the greater or lesser predominance of one of these.

There is a curious Problem started of late Years concerning Epidemicks. ie that they were much more frequent in ~~some~~ former Years than at present. Sydn: Sham & Morton abound wth Descriptions of Epidemicks. Pringle wonders where they got them from. the Reasons of this

are owing 1st to fewer human Miasmata being generated at present than formerly from People's living less crowded together. 2nd to our Cities being kept much cleaner than formerly especially in England. 3rd People are less confined to their Houses than formerly - the Paving of Streets & ye use of Carriages have invited People more Abroad of late years. 4th the great Change in our Diet makes our Bodies less apt to generate or to receive Miasmata. Vegetables are now purchased so cheaply that poor as well as rich in some Measure live on them at present. 5th the

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use of Sugar has likewise tended to diminish the Effects of human Mi=
asmata as well as to prevent their Gene=
=ration 6.th Greater Attention is paid
to our Jails & Hospitals than former=
=ly from whence we know so many
Contagions to be their Rise 7.th the
Improvements ~~of~~ in Agriculture
have tended to diminish the Quantity
of marshy Ground. a very fruitful source
of Miasmata! 8.th We are less exposed
to occasional Causes ~~of~~ than our Fore=
fathers from the greater Compactness of
our Houses. & greater plenty of Fuel among
us. I tho't it of Importance to point

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but these things, that we may in w^h manner to proceed in checking y^e Rage of Epidemic Diseases. —

Let us now consider the periodical motions of Fevers. this a subject of less consequence than it was formerly from our depending less upon the Operations of Nature. But still it deserves to be attended to.

we shall 1st enquire into ye Facts themselves & 2nd into ye Reason of them.

all Physicians agree in ye periodical movements of Fevers, more especially the Ancients from Hippocrates downwards. Asclepiades was ye first who

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refused critical Days, or at least ye general Rules of Hippocrates wth Re-
gard to Quartan & Septanian Days. I
believe he maintained their periodical
motions notwithstanding. What Periods do
Fevers observe more steadily? the Ancients
agree in their Periods, altho' ye Moderns
disagree about them wch is owing to their
living in more ~~cold~~ Northern Countries.
Most of our eminent Practitioners
however have believed in them, & most
of them agree in certain Days. Histories
of Diseases abound wth proofs of this. all
negative Assertions to ye contrary are of
but little weight. we shall enquire

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therefore into these Days. unhappily!
we have been too much led by Hippo-
crates in pointing them Out. who is
indeed often contradictory in his Acc.
of them, wch may be owing to many of
his works being Spurious, & many of
them wch are his own having suffered by
being transcribed. Hippocrates himself
too is to be suspected of being biased to
Pythagoras's Harmony of numbers wch
may have led him to set down some
things from Theory only. He was besides
too apt to form general principles.
in the 36th Aph: of B: IV. he marks out
the days as the 4th 6th 8th 11th
3 - 5 - 7 - 9 - 11 - 14. 17. 20 as critical
days. There is but One Difficulty in

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admitting these Days. i.e. ye Hippocrates says that critical Days occur only on the Odd Days. now here we see several even Days. He says too that the Crises of Fevers happen on Quarter or Septenarian Days. But this arose from his Theoretical Notions. It is therefore left to be attended to. all Physicians agree in the Days Hippocrates has pointed out. Dr Rush & Dr Martin who made many Observations upon critical Days both agree in general upon these Days.

2nd Why are the movements of Fevers in this manner? This is a most difficult Question, but we shall attempt it. They appear to be founded upon some Laws of ye Animal

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Oeconomy. the human Body is subject to diurnal Revolutions, & one every 24 hours becomes in every Respect Alike. the ~~Fas~~ Functions by food & most from Appetites are in some Measure diurnal. the Fundamental powers of the Body are not subject to any great variety, but are nearly the same in all Systems. the least Deviation in any of the Functions is followed by a contrary State of the Body. thus Exercise is succeeded by Sleep, & an encreased Quantity of food, by an encreased Secretion of Urine & Stool. from this we see the System has a power of preserving its ~~own~~ own Ballance. But further, the human

body is greatly subject to y power of
habit w: determines the Degree Velocity
& Order of all our Actions. from this,
any One Action may become periodi=
cal merely from the power of Habit.
The Oeconomy is most uniform in
its Beginning, hence you may subject
are most disposed to y power of Habit.
- The human Body is besides this expo=
sed to y Influence of several Bodies around
us w: are periodical, especially the Sun
& Moon. the Sun more especially Operates
upon our Bodies. we are sure of its
Influence tho' we cannot say how its Acts.
- within the Tropics the Operation of
the Sun is more evidently Observed upon

the Aid of his shining more directly.
- the vicissitudes of Heat & Cold - Light &
Darkness - as well as the States of the Air
are ~~less~~ more constant in those hot Climes
& hence the Sun's Action is less inter-
rupted, & periodical Revolutions in the Sys-
tem are more easily observed in Sou-
thern than in Northern Countries.
The nervous System is the chief seat of
Habit, & I believe the Operations of
Habit are confined to the Sensorium Alon
- the Secondary Effects of Habit appear
in the Other Functions, more especially
in the Sanguiferous System. the Pulse
is slower in the Morning - Quicker

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at noon - is slow in ye Afternoon & quicker in the Evening. For a full Acc^t^ of these Facts See Dr Robinson's Animal Oeconomy. I think we may confide in them, Altho' his Experiments were not made wth all ye Accuracy we could wish. The Fluctuations of the Pulse in Fevers are sufficient Demonstrations of the Truth of them. I have Observed a Quickness of Pulse from 10 to 20 Clock in Health wch could not depend upon Diet as the Quickness of Pulse in Dr Robinson's Experiments might have done.

All Intermittents come on in the Forenoon, & generally finish then

Paroxysm in 12 hours. these regular
Exacerbations appear to be founded
on the diurnal Revolutions of ye System.
- But the System is disposed to regular
Periods once in the 48 hours likewise
from Causes wch I cannot explain.
- I infer it from ye Uni~~formity~~ vocality of
the Tertian Fevers, wch we often see
not prevented even in continual Fevers.
- Quartans depend upon a less Imi:
:tation of the System as even tin: Fevers
depend upon a greater or upon the
Inflammatry Diathesis. The Notion of
ye Dies Embares of Hippocrates has some
Foundation from ye: great Disposition

wch Fevers have to ye Tertian Type.

Quartans never occur in ye Spring

nor Summer from ye Presence of Stimu=

li from Cold & Heat. they occur only

in the Autumn when the System is

subject to less Irritation.

Nature we see then affects periodical

Motions wch is evident from ye Phenome=

=na of Intermitt: Fevers. we presume

these Motions are present in continual Fevers

because contin: Fevers are naturally

intermittent unless some stimulating

powers occur wch then wch render them

continual. 2nd because their Termina=

=tions happen upon regular Days wch

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connects wth the tertian or Quartan type.
3^d they have their Incubations
& Remissions upon the critical Days
of Hippocrates they are tertians
in the Beginning, but as y^e System
becomes weak they assume ye Form
of Quartans wch is generally About y^e
11th day. — 4th they have Incubations
& Remissions twice a day wch I believe
arises from the Influence of ye Sun.
The Attention to Indications of Cure in fevers tends
much to illustrate the Method of Cure.
To come at this I began the curious Question of
natures curing fevers — I observed the Doctrine of Con:
coction & Expulsion of morbific Matter was so exploded
as not to require a Refutation — I took notice of the Opi:
:nion substituted by those who suppose fevers owing to
Spasm & the Cure depending on removing this.

The Spasm does very generally attends Fevers & often occasions the continuance of them: yet this is not always the Cause. In all Fevers there is a Condition previous to the Spasm, wh is to be considered as ye Cause of the Disease & therefore the removal of this must give the Cure. — This Condition I have said consists in a certain Debility of the Sensorium or an Interruption or Resistance to its Influence, by wh the Power is not distributed equally to ye various parts of ye System. Thus in the sanguiferous System in greater Proportion than in the animal Organs & in greater Proportion distributed to the Head & larger Arteries than to ye Extremities. Nature then cures Fevers by removing this Interruption or resistance to the action of the Sensorium. This is favoured by the whole Phænomena of Fevers & will plainer appear hereafter in the Means employed to remove Fevers.

This is a Doctrine that will be difficultly received: for the Debility of the System seems constantly to be going on in Fevers. Nay, the Debility is often greatest, when the Disease is gone. The Debility I suppose the Foundation of Fevers, tho in some measure universal, is yet unequal: more of it in the extremities than the origin of Nerves, more in animal than vital Organs & more in the Extremities of ye Arterious System than in large Trunks, as I have observed. The Cure does not therefore depend alone on restoring the Vigor of the nervous Power but likewise on ye restoring

the equable Distribution of it most especialy to the extreme Arteries. – While the Debility or Resistance remains, the Spasm will necessarly be renew'd, as it proves a Stimulus to the Sensorium & to the Heart & Arteries –

We must enquire the Means by wch Nature removes this Condition.

This is partly done by a reaction of the Sensorium & an encreased Action of the Heart & Arteries – The first we cannot so well explain; but the 2d is one of the chief Means, it keeping up the Excitement of the Sensorium.

Having consider'd the Termination of Fevers in Health, we must consider their Termination in Death – A difficult Problem not yet solved.

Let us here consider the General Causes of Death.

Death is the entire Abolition of the Excitement of the Nervous Power in the Sensorium – It will be useful to explain the Term Excitement. I suppose it understood that the vital Principle in Animals is seated in the nervous System & more especially in the Sensorium. Every Function of the animal System depends on the Nerves. –

The Activity of the Sensorium & of the nervous Power in general depends on a subtile elastic Fluid confined to the medullary Substance –

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3d. This subtile Fluid is a Portion of that Ether wd our Phylosophers now agree exists in common wt all Bodies. as connected wt a State of Mixture it has no separate Motion, & only such as are attended wt change of Mixture, but in certain Circumstances it may in certain Bodies be so collected as to have Motion communicated thro it, without Motion in the solid Parts. - We have an Instance in Magnetism & Electricity. This I call the excited State of the nervous System - In this Excitement of the Sensorium does Life consist.

Supposing such an Excitement. It is in different Degrees in different States of yd animal Oeconomy. It may be from the highest maniacal State to the lowest Degree of waking Animals; below this is the State of sleeping Animals, where Excitement is so weak that it is not sufficient for the animal Functions - A lower Degree is that of Syncope. Here the Heart & Arteries are excited in the weakest Degree sensible, but the Sensorium is so far excited as to be capable of reacting & giving Action of Heart & Lungs. A Lower Degree is Asphyxia Heart & Lungs are stupified, but here as Life often returns in wk so much support so much excitement as to be acted on by Impulse -

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When the Excitement is below this, so as not to be ca:
pable of Excitement it is Death.
We are now to say how Death is to be brought on
in general.
1st It will depend on Powers destroying nervous Power
excited.
2d Powers destroying the Organs on wh Excitement depends.
The 1st Means of Excitement we find to be Heat; & this
is as necessary for its Support. – Cold then will have
a Contrary Effect & Action on killing Animals will
readily be allowed to be on the nervous Powers. Any
thing in fluids or Organs is to be considered as Conse:
quences. If this is a doubtful Instance, it will be
attended wh Regard to Powers. Many operate so sud:
denly as to give no Suspicion or Proof of Action on
any Part but the nervous System.
2d The Circulation of the Blood is necessary to support
this Excitement, as appears from the Effects of Stopping
the Impulse of the Blood to the Brain or directing it
in a greater Portion. It is most necessary in warm
Animals & particularly in Man – What then enter:
rupts the Action of the Heart, puts an End to Life –
Pathologists have thought it sufficient to explain
Death by shewing how the Heart stops – but in the
Beginning of Life it appears that the Sensorium

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is excited previous to the Hearts Action. And we further find that by withdrawing the Energy of the Sensorium we stop the Hearts action.

The Pathologists have constantly marked the Leaving off of the Hearts Action as the Cause of Death, yet they have not determined how this operates.

Many Functions must stop with the Heart, but this does not explain the ceasing of the vital Principle.

Thus the Amphibia whose Excitements depends less on the Impulse of the Blood, this may be interrupted long without Death.

Physicians have explained it from supposing a Secretion in the Brain wh requires the Presence & Impulse of the Blood. This may be a Secretion, tho not for the Purposes of Sense & Motion. Whether what we have said is just, it reduces it at least to a simple System that Life consists in an Excitement of the Sensorium, Death in entire Abolition of this. The Causes then may be direct or indirect. Direct are the Causes immediately taking Excitement. Indirect those that destroy Organs necessary to the Excitement.

The Direct

1 Sedative Passions

2 Violent Excitement

3 Certain Poisons

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4 Cold
5 Compression
6 Destruction of the Texture of the Sensorium.

As to the 1st I need not say, all reflex sensations are stimulant or sedative. That is encreased or diminished excitements of the Sensorium. How they operate I cannot say, tho' ~~they~~ this in fact is certain.

Examples of Grief destroying the System & bringing on Death.

More evident Examples in Fear. The sudden Deaths of the Plague have been referred to Fear - This we must at least allow a ~~very~~ powerfull concurring Cause -

2d Violent Excitement - The only Explanation is that it seems to be the Nature of the Sensorium & all Exercise of its Excitement diminishes this - Hence we explain why Exercise attending Labour brings on Sleep. In ordinary Cases we can perceive this Exercise induce Sleep more or less irresistably as the Exercise has more or less violent.

All pleasant Sensations, Emotions, so are the States of Excitement that induce Debility & often Death.

It is allowed that all these tho immediately confined to the nervous System demonish Excitement. Ire has often brought on Death - Convulsions

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are a high Degree of Excitement, & always terminate be
in Debility or Death.
This shews then that violent Excitement may be
the Cause of Death & hence the violent Excitement
in Fevers may be a concurring Cause of Death.
Dr Pringle asserts in his Causes of Fevers that a few
Paroxysms brought down the strongest Men so as
not to stand. Here are no very violent Sweats, it was
the weakening Power of the Miasma remarkable in
other Cases.
Debility then in Fevers must be referred considerably
to the Excitement in the Paroxysms & therefore this
in Fevers may induce Death.
3d Poisons — unnecessary to define the Term exactly
or say how the several Powers operate. There are
Powers that evidently destroy Life, tho only received in
very small Quantities. Many do this by acting
solely on the nervous Power. We as evidently see
this in many that they operate as sedative Powers —
And when they are very suddenly fatal, we must
refer it to the sedative Power in Excess.
How they operate is not explained, we must only en-
quire if Persons concur in the Death of Fevers.
It would appear the Case. Putrefaction in a

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small Part of the System often induces Death, & the Action first appears in weakening the Power of the Sensorium. It is so quick often that we would not refer it to Fluids being unfit for Secretion, but rather to a gross: nous Vapour acting on the Nerves.

With regard to Miasm & Contagion we have rendered it probable that they arise from Fermentations of the Putrefactive Kind - And tho not exactly putrid, yet have somewhat of the same Virulency.

We perceive in general their sedative Effects, & tho they some: times occasion the Reaction of the Sensorium so as to give Fever; yet often in such a Degree as to bring Death sud: denly. Thus at Marseilles Death came on after the first Symptoms had appeared only two Hours - A further Analogy between Miasma, Contagion & putrid Matters appears by the Matter supplying

Putrefaction in Fevers has been referrd both to the Effect of Fever & to a Putrid Ferment. In the greater Number of Putrid Fevers, the Introduction of a Fer: ment is the most common.

I conclude then that one of the most universal Causes of Death is a peculiar Poison that destroys the Excitement of the Sensorium.

There are 4 Cases of the Operation of this Poison -

1st It may depend on the State of the Person accom: panying the Miasma & Contagion.

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2d When the Poison is in the Miasmata or Contagion, tho it is not in sufficient Quantity to give Death, yet con:
:curing with a violent Excitement may kill in a few Paroxysms.
3d When in neither Cases it would kill, yet by being mul:
:tiplied by Fermentation they encrease in Quantity as to give the Effects.
4th When neither of the three happen; but as a Ferment produces such a Dissolution of the Blood, the sedative power so relaxes the Vessels as to occasion
these become putrid & then are a sufficient Cause.
The last is the most common & universal Cause in Fevers, examine the various Histories of the malignant & putrid Fevers & you will see very generally some Sphacelus or Mortification.
2th Operation of Cold - I spoke of it before, and is an Effect of nor is the --
5th Compression - I need not say that Compression of the Sensorium not only occasions Aetion but may give sudden Death. but tis seldom the Natural Effect of Fevers. The Appearance of Apoplexy & occur frequen:
:ly, but we shall endeavour to shew
rather than Compression of the Sensorium.
6th Destruction of the Texture of the Sensorium. This from the encreased Impetuosity in Fevers & Delicacy of the Brain has been frequently supposed. We do not however know the Operation or Signs of it. I would doubt

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& I would not allow it a common cause.

Considerable topical Affections of the Brain often sub:
:sist long wt Life. - in small Lesions that give Death,
it is to be attributed perhaps rather to ye violent Ex:
:citement & Irritation, than the Destruction of Texture.

Boerhaave thus explains Death in Fevers & Van
Swieten endeavours to support it by reasoning - but
they are both wrong - Its a supposition of extreme Vessels being
greater in Proportion than the Trunks wh is directly
contradicted by Dr Winthringhams Experiments.

Again he supposes a Lentor of the Fluids wh by
encreased Impulse clogs up the Vessels, yet he in
other Places refers them rather to an Affection of Im:
:petum faciens.

Of these direct Causes then, two only seem to operate
in Fevers viz Violent Excitements & Poisons.

The last may operate by being alone, or with miasm^ta
& Contagion or by Putrefaction in Consequence of topic:
:cal Effusion.

I did not think it necessary to speak of the Mors senilis.

The other Causes are such as tend to an entire Abolition
of Excitement - they are direct or indirect.

The Direct may be referred to 6 Heads. As to the last
the Destruction of the Texture of the Brain, Dr Simpson
would not allow it as he endeavours to shew that animals
might live without Brain; but he pushes it too far.

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The Causes taking place Fevers perhaps may be reduced to Poisons or violent Excitements.
The Indirect act on the Organs necessary for Circulation — the Causes interrupting it are more remote or direct.
The more remote are stopping the Supply of Chyle, hence cutting the Thoracic Duct is certainly fatal. More direct are Evacuations excessive. more immediate still are Erosions of the Heart. next obstruction to the Heart as Polypi.
The Causes interrupting Passage thro the Lungs are numerous — those connected with Fever, only are perhaps Inflammations of the Lungs by the consequent Effusion.
All these act only by preventing the Impetus of the Blood & therefore take off Excitement.
In Fevers a stimulant. sedative & septic Power occur — any one in Excess may give Death.
Stimulant Power gives greater Spasm & encreases the Excitement. The Stimulants besides may occasion particular Effusions & thereby in the Lungs suffocate or in other Parts give rise to a putrid Poison.
The Sedative concurring w't other Causes may kill. or it may be sufficient alone or may be rendered sufficient by multiplication or by occasioning Effusion give Rise to Putrefaction.
The septic Ferment may act as sedative & by inducing a putrid State may give a more fatal Poison.
This Connection ~~in~~ of — — the Causes inducing Death in Fevers & the Causes originally supposed to take

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place in Fevers appears too in the Principle genera of Inflammatory nervous & putrid.

There is a Foundation for Prognostics; let us find if the Symptoms importing Danger are reconcileable to ye Doctrine of Causes. I shall enumerate the Symptoms so belonging to ye stimulant, sedative & septic Powers. We shall see how the Experience of Ages agrees wth our Causes.

The Prevalence of stimulant Power & its chief Effect — the Phlogiston, Diathesis & a Consequence of this Spasm is expressed by the State of the Pulse & of the Heat of the Body.

By the State of the Pulse as more frequent. This it may be said is often from Weakness; but when with any Degree of Hardness or Fullness it is a Mark of Stimu: lans & Irritation.

Besides Frequency & Celerity of each Stroke may be taken in as a Sign of Stimulus. In most Pulses not above 100 I can observe the Celerity of each Pulse accompanying the Frequency of their Repetition.

That cannot be perceived.

Frequent Pulse from Irritation is inferred from Hardness — This becomes ambiguous often from mal: ness; but this will arise from the Tension & therefore Excepting in very violent Contageon, a small Pulse is often a Mark of Irritation — Hence after Bleeding often makes it fuller & softer.

2 Heat has been reckoned a Mark of Putrefaction,

but only as the fluid is connected wth a Stimulant.
Heat coincides surprizingly with the State of ye Sanguiferous System & therefore Heat shows ye Presence of Stimulus
The more subtile Distinction of a later I am not certain of — The Heat is expressed first in the State of the Tongue as more or less cover'd with Fur. To preserve the Tongue fit for Taste, there is a moist exhalation of a Fluid wch leaves on Evaporation a thicker Part. In Hectics & Children the Fluids are so thin as not to give a Sediment but this always happens more or less in Adults. and when the Heat of Fevers exhales more than is usual mucous Sediment — it goes so far as to give a dry Crust. Why it changes Colour we cannot explain.
2^d Heat is expressed by thirst from the Mouth & Fauces turning very dry — But Heat is not the only Cause of Third Thus Spasm in a Cold Fit, Putrid Matter in the Stomach. Dryness & that too are connected on the Surface of the Body
3^d Scanty high coloured urine — This is a Sign of Heat & of the Determination at least of Respiration to ye Skin. Perhaps the Heat occasions the Blood to part with more of the colouring Parts of Urine.
The Absence of Remission — I have endeavoured to shew that the Protraction of Paroxysms depend on stimulant Powers. But this Stimulus may be combined with Debility a Septic, & when these act we shall find the

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symptoms of the Stimulus proportionally lessend.
The Inflammatory Fever from violent Excitement may be dangerous, yet it is the safest Fever when not attended w.th topical Affection. The Inflammatory State only becomes dangerous perhaps when there is Determination to the internal Parts. I cannot help illustrating this by the Safeness of the Rheumatism where the Determination is to the external Parts. A Practitioner of 40 Years said he never saw Death from the rheumatic Fever. In 30 Years I never saw it, except when ending in a Topical Determination. These Determinations I refer to 3 Heads.

1 Determination to y.e Brain
2 — — to the Lungs
3 — — to the abdominal Viscera.

As to the 1.st it arises from the laws of Circulation. — in the encreased Action of the Heart & Arteries — must without topical Causes necessarily take place to the Head; & is found in the

Sweating in Consequence of this Determination appears first on the Face & perhaps Excanthemata.
The Determination is discover'd by an unusual Pulsation of the temporal Artery, a Turgescence of the Face, protuberant & inflam.d Eyes — encreased Sensibility of Light & — Violence of Head-ach — Constant Watching, Violence of Delirium —

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These are not ambiguous wth regard to Cause, except Deli:
:rium – This is to be distinguished by the Mode of Delirium.
being its being attended with greater Rapidity of Thought,
by Impetuosity of Emotion & Passion. Where these concur
with other Symptoms, I take it as a Mark of encreased Impe:
tus of the Blood to the Head.

The Congestion is generally the Cause of Inflammatory
Spasm, yet the Impetus encreased may give the Con:
:gestion – hence Phrenitis may arise – & therefore an
Irritation fixed to the most tender Part.

2. Determination to the Lungs – From their Nature &
Function every encreased Velocity of the Blood must esp:
:ecially be felt there as as much onest pass thro them
as thro the whole System.

But then they are exposed to the Air; from both which
Peripneumony is the most common Inflammation

The encreased Velocity in the Lungs gives difficult
Respiration. The intercostal Muscles are taken in often
wth shewes & more Laborious. But often too all the Muscles
are employed that can move the Ribs – A difficult
Respiration then will express a particular determination
to the Lungs. – The same is expressed by the Decubitus
difficilis. Tho this may arise from Affections of the other
Viscera yet in general it happens from the Lungs.

It will be more fully expressed by Pain of the Thorax,
Cough & more Certainty of Cough is attended wth catarrhal
Symptoms. The strongest Degree of Inflammation is expressed
by a Turgescence of ye Countenance, of a more bloated kind

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Appearance than in determinations to the Brain -
3d The Determination to other internal Parts, tho not vital, yet as giving Irritation from Congestion, & especially as these Viscera are liable to Effusions, wh from Suppuration or Putrefaction may bring on Death, hence topical Affections of the abdomen are dangerous.
Often detected only by Dissections but in general are to be inferred 1st from Vomiting. This may arise from a certain State of the Sensorium or Surface, but when not to be suppressed by saline Diaughts or Opiates, it is a Symptom of inflamed Viscera - more certainly of a Painful Tension of the Abdomen, as happens in Intermittents or continueds from this. As such Fevers were chiefly Objects of the Antients Practice, so they speak most of Inflammations of the Liver, Spleen &c. Tension then in general & Inflammation may be marks of topical Determination to the abdominal Viscera more certainly if there is topical Pain -
The Excess of Stimulus becomes more dangerous as combined w Sedatives or Septic Powers, as it not only increases its own Effects, but as it aggravates the Effect of Causes as increasing Obstinacy of Spasm & giving the Effusion that may be so Dangerous -
The Prevalence of Sedative Power may depend on various Causes.
1st As the Person is weak from Evacuation, Disease, Grief watching &c
2d. on the Powers of the Miasm: & Contagion

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3d As with (2) the Concurrence of Fear & Despair - the Presence of these are often the Marks of the Strength of the Cause, but without this Timidity may conceal.
4th Repetition of Paroxysms.
5th Excessive Evacuation.
6th In Consequence of the Cause being encreased by Multiplication.
7th A Particular Generation of Putrid Matter.
I shall mention the Signs of Debility in the 3 Sets of Functions. - vital, natural & Animal.

the Symptoms as arising in the several Functions.
In animal as they affect voluntary Motion. Debility appears from a considerable Lassitude & Sense of Debility preceding the more formal Attack of the Disorder.
On the Attack it appears more by the loss of muscular Strength.
At first the Debility of muscular Strength amounts to the Difficulty of keeping on ye Legs. he at first can support himself in a sitting Posture further on he cannot bear this - he lies along, when few Muscles are employed in lying abed we see the Progress of the muscular Debility, in the Facility wth wh he turns.
At last he cannot turn except by the Assistance of a Bystander, & even here we may desire him to contribute more or less - lies at last on one Side & further can only lie on his Back. further if the Bed declines he cannot support himself from sliding down. goes forth when he exerts himself by erecting his Knees to prevent

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sliding down.
The weakness is further expressed by this, that every Effort of muscular Action is attended wt Tremor, the certain Sign of considerable Atonia - not so mortal when affecting whole Limbs: but if confined to small Parts as the Tongue over wh we have more Command, it is worse. Still more when the Motion of the Eye Lids are attended wt Spasm - when they are connivent in squinting appears when the Ball turns up, & the Eye Lid does not, even from the long Habit, follow it. - Convulsions express great Debility, wh are as much the Effect of this as Irritation. - Accordingly all mortal Powers have convulsions at the last. In Hemorrhages fatal the last Effects are expressed by Convulsions.
These Symptoms exasperated are expressive of the weakening Cause of Fevers. Next in Sense & Thought.
The particular Symptom here is the Tone of the Mind. Dejection & Despair either in Sentiments or Countenance: A certain Tone of Mind attends a certain State of Body. one is attended with Chearfullness & Hope, Courage & Alacrity; another wt Sadness Temerity & Despair. From a Number of Instances in wh they recur we can say they are nearly as the vigour of the Sensorium. - It applies too pretty generally to the Vigor of the System in general. Dejection then & Despair arising from the Disease in Persons of Hope & Courage give great Marks of Debility. -

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If expressed in the Countenance the often Sentiments.
we may suppose the same State of the Sensorium.
In a Person of Health the Eye is open, is directed to a
particular Object steadily & is directed to a Diversity with
a Rapidity as quick as thought. There is a certain Agi:
lity in the Muscles of the Face too. Debility then occurs
When the Eye scarcely opens when it wanders languidly.
When loose in its Attention - When the Muscles are
lax & expressive of Despair. - Dr Lind takes his chief
Prognostic from the Expression of the Countenance.
The rest of the Symptoms of Sense & Thought express
rather the resistance to ye Action of the Sensorium.
Thus it appears in a Contusion of the Head, when
Recollection is not easy, & the Mind does not pass from
one Idea to its usual Associate, proceeding at last
to almost a Loss of Memory. Thus we must suppose
to depend on an Interruption of the Motions on wch
these all probably depend.
The Resistance appears when the Ideas are incohe:
rent. This is the State of Delirium. It might be proved
that all Incoherence of Thought depended on an
unequal Excitement of the Sensorium. - We may
suppose it to arise from Absence of Excitement on
one Part, or the unequal Excitement in one.
Excitement appears to depend on the Action of the
Heart & Arteries most; but this encreased does not
give Delirium except Resistance in one Part.

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On this supposition it may be of 2 Sorts –
1 Resistance may not be very great, & yet great Impetus
excite Delirium. If Impetus not very great & yet
Resistance very great Part, Incoherence may arise –
When Delirium appears without great Impetus;
when with the Symptoms of Debility – When the Incoe:
:herence of thought is not rapid & attended w/ violent
Emotions. All these Symptoms I take as Marks of Deb:
:lity or Resistance in some Part of the Sensorium.
It will appear more when it is connected with a State
of Sleep. The ordinary Impetus in unequal Excite:
:ment is sufficient to give Delirium – Thus every
Man more or less determines in going to or coming
from Sleep. – Certain Associations are so constant
& long established as to remain w/ some Delirium.
If these then are interrupted, greater signs of resistance,
Thus the forgetting Drink when called for – or evacu:
:ating Excretions without calling for the Instru:
:ments usually requires. All unconsci:
:ous Excretions then are a very bad Sign. That is
when evacuated in the usual Way, & from paralysis
of Sphincters. – Insensibility to Thirst, when
Heat & other Causes subsist is a great Mark of Ir:
:ruption to the Functions of the Sensorium.
It goes further when the Insensibility of the other
Senses takes Place, as False Vision or Loss of Sight.

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The most ordinary Instance of this false Vision, is when he endeavours to remove false Objects on the Bed Cloaths from him. - Still further when a State of Sleep comes on. - Sleep in Fevers is not reckoned a bad Symptom if the Sleep is natural. but we distinguish between Sleep & Coma. Coma is Sleep in a higher Degree than Natural. -

Sleep in healthy Persons may be from Compression or Collapse or Sinking of Excitement.

That the Coma of Fevers depends on the latter is evident from its appearing in the natural Way & only arising to a greater Degree of Sleep. Thro these Degrees I reckon it only an Excess of the same Nature from the Suddenness of Recovery wh often happens. Compressions from Effusions &c. are seldom so soon removed as not to leave some Effect.

In the Vital Functions of Circulation, we first mention as a Mark of the weak Action of ye Heart. When it cannot bear the Action of Gravity in the Blood & therefore not propell the Blood in an erect Posture so as to keep up its Action & excite the Brain This might be reckoned an Affect of the animal Functions, but when Giddiness is preceded by Tinnitus aurium. I consider it as a Symptom of weakness of Heart. - Less Ambiguity in the Pulse - Great frequency is a mark of that Debility of ye Heart, when

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it does not evacuate itself & therefore is soon filled and irritated to Contraction.
We said Frequency was also a mark of Irritation; but we may especially reckon it from Debility, where it is weak, more if irregular, & further if concurring with the Symptoms of Debility.
We have an Instance of Debility too in Slowness of Pulse sometimes.
This is difficult to explain - we can say that When the Pulse is slow in proportion to the Affection of the Sensorium. - We may reckon it a Mark of Weakness. It is a Sign that the Energy of the Sensorium is not excited towards the Heart - This will explain the Slowness of the Pulse in nervous Fevers when the Sensorium seems evidently affected -
Heat when lower in Proportion than would be expected from a feverish State, it is a certain Sign of weak Action of the Heart in Consequence of weak Energy of the Sensorium.
We may explain animal Heat variously, but it is somehow connected wt a certain Action of the Heart & Arteries - Debility appears in the Lungs when respiration is small - i.e, when the Contraction of the Diaphragm is not exerted with sufficient Tone & Extent. When neither this or Intercostals are able to dilate the Thorax sufficiently -

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becomes extremely frequent; thus if a Person on speaking a little, taking a Drink or moving himself, is affected with very frequent Respiration, it is a Mark of Debility. Laborious Respiration is in very different Degrees a mark of Debility - We labour some when we take in the Porter: costals. Still further Debility when we require the Muscles between the Scapula & Ribs. And a fixed Point must be given that they may act. When their Head is stretched or Scapulæ raised, it is a mark of great Debility - Still more when we take in the feeble Assistance of the Pinna Narium to impel as it were the Air into the Lungs.

On this Subject we must add the Change in the Tone of the Viscera

The Tone of the ~~Viscera~~ Voice depends on the Organ of Respiration being so far under Command as to push the Air as the Expression of Sounds requires When the Muscles of the Glottis, wh in Health we govern w: great accuracy shew Debility it is a remarkable Sign & still more when it arises to a perfect Aphonia -

Besides these Symptoms when the Heart does not propel the Blood to the Extremities so as to be cold, it is a great Mark of Debility. When Colour fails in ye Eyes & Face it is a great Mark of weak Circulation - still more if besides Change of Colour, there is a Shrinking of the Face, the Hollow Eyes, Cheeks & other Signs of the facies

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Hippocratica.
For the natural Functions of Appetite & Secretion we must consider the Symptoms without examining the Connection of the Stomach & Sensorium. It is a fact y^t Vomiting is a Mark of Debility and since so frequently attends Deliquium Animi. If the State of the Sensorium depends on the Impulse of the Blood in the extreme Arteries, we may readily explain the Want of Appetite. We might explain this Want of Appetite otherwise, but in general it is a mark of Debility as it often proceeds in proportion to the Symptoms of Debility.

In the Excretions — The outlets of ye Oeconomy for certain purposes are provided with certain Sphincters that do not open except in necessary Evacuations; when this Constriction is abolished it is a great Mark of Debility; The Difficulty of Deglutition is a considerable Mark. You may enumerate many other Symptoms of Debility. I have mentioned enough for you to judge of the Strength of the sedative Causes & ye Danger.
I must add that all these Marks are more dangerous when connected with a stimulant Power. When this happens appears from considerable Sensibility at the Beginning of a Disease; while Marks of Irritation in ye Progress are not so prevalent. Interrupted Sleep languor & Drowsiness shew Marks of Debility, but when they are interrupted it is a Sign of Irritation. Still more

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When there happens watching for Nights & days - The Irritation is expressed when without violent Emotions, there is constant Restlessness & Desire to get out of Bed: When Vision is quite destroyed, there is often a Conniventia Manuum joined to the Impatience of getting out of Bed, this is a mark of some Irritation. - A great Frequency of a weak contracted Pulse will be a mark of Debility but is especially a Mark of Irritation subsisting wth great Debility. - When Spasm subsists wth great Debility, a Mark of Irritation - hence limpid Urine in Fevers is generally a Mark of Irritation - Convulsive Motions often occur in Irritation wth Debility as

Subsultus Tendinum.

When we consider how often Miasmata & Contagion are connected wth Putrefaction & how often they have more or less of Septic Ferment.

We shall think that the Poison of Fevers is centered almost entirely in that of the Putrid Kind, as would not entirely refer to this, tho no where greater danger than in those Cases where Tendency to Putrefaction appears. The Tendency to Putrefaction is expressed first by Nausea & Thirst. The Presence of putrid Matter in the Stomach is attended wth Nausea - When no Putrid Matter is thrown in, or any Reason to expect that the Matters have become so, yet if very considerable Nausea we may suspect a Tendency to Putrefaction - Even vegetable Matters may

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become putrid, & therefore is such Nausea excited for taking off all Appetite for Food, & giving great Thirst that Drink may be taken in to dilute the Putrid Matter & promote its Expulsion by Emunctories. Hence great Thirst a Sign of Putrefaction. These are ambiguous, — more certain and offensive Tastes in the Mouth. & Fœtor of Breath may be a very strong Mark. —

Fird we may distinguish it in the Color of Urine — High coloured Urine we said attended Stimulus, but a Difference between this & that peculiar to Putrefaction. The latter is not the high coloured brown but has more red & generally turbid.

Frequency of loose Stools if these are very fœtid. various Causes of Diarrhea in Fevers but especially from acrid Bile in the Intestines — It appears that Bile is thrown in great Quantity on the Intestines especially in putrid Fevers.

It is most disposed perhaps to the Putrefaction of our Fluids. however it be certain it is, that it accompanies the Marks of Putrefaction & is favoured by Stagnation in the Intestines.

More certain Marks are the Dissolution of the Blood — When by cooling it becomes a Gelatinous Mass, without the usual Separation of Crassamentum & Serum This is hardly to be influenced by the manner of Drawing

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Therefore when appearing much, it is a Mark of the Lymph having lost some Power of correcting & this the Consequence of Putrefaction.

When the Coagulum is formed the Matter may be doubtful, but the Colour of the Serum has influenced the Globules are so dissolved in Serum as to give the Appearance of the Lotura Carnium. It is a mark even without this, a yellow Colour is a sign of Putrefaction. The Yellow arises from this, or from a reabsorption of Bile. When no Cause wh could give Rise to this Reabsorption, it must be I think referred to the other Cause.

Cases where the Matter is more ambiguous are those where have an Inflammatory Buff. This has been generally referred to an Inflammatory State, tho the Theory is false, for in the Scurvy & other Diseases of Dissolution this has appeared. It is not then a negative to Putrefaction & besides it does not appear such a Concretion as that in the pure Inflammatory. We have seen the Lymph separate but it was between it & the Globules was a gelatinous Mass. It is too in less Quantity than in the pure Inflammatory. We may still more certainly determine Dissolution: if the subjacent Globules are more readily diffusible.

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In Consequence of this Dissolution Hæmorrhages are reckoned a Mark of Putrefaction – Partly is this owing to a certain Atonia taking place in the Vessels at the same Time – The Effusions appear in different Shapes – In Women by the Catamenia appearing before the usual Period – there discovers itself by a very dark red & often a subsiding to the Bottom – The Nose is subject to Hæmorrhagy – tis a mark of Putrefaction when without Crisis or Inflammatory Congestion evident. Corners of the Eyes & even Pores of the Skin have poured out Blood. – Blood from various Circumstances poured into the Alimentary Canal – more or less fluid as it rendered by Vomit or Stool –

It is a mark too when the Blood is effused into ye Cellular Membrane & the rete mucosum. In a moderate Degree it produces the Petechiæ so much spoken of lately. Death with regard to their Appearance – In the latter End of a Disorder they may not only depend on Dissolution, but also on relaxation of Vessels. Hence may perhaps prove critical – They may be more innocent at least when appearing late & without much Marks of Putrefaction in the first Cause. If occurring at first they give Sign of the Atonia brought on by the Strength of Putrefaction. More Dangerous as declining from the fluid Colour – & still worse when so considerable as to form Maculæ & Vibices –

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Also the Dissolution appears when the Vessels are relaxed so as not to pour out red Globules but the Serum, & gives the yellow or yellow Fever. It is not Bile from the Arguments given just now, & especially from the very great Marks of Putrefaction in this Fever. - Yellow Effusions are likewise in the Bilious Fever of the West Indies, from the marsh Fevers of more northern Climates. These are of the same Kind only in the last comes on later & therefore as being more from Relaxation than Dissolution may prove critical.

The Fator of Effusions gives a Mark. Thus the Fator from Discharges of Blisters, fatid sweats. I cannot well distinguish the various Odours of but offensive Odours in sweats & Perspiration are often Forerunners of what Authors distinguish under the Title of Cadaverous Odr. wh occurs often some Days before Death & is a very certain Sign of its approach. This putrid State may be combined wt an inflammatory or stimulant & especially at the last, with a State of Debility or sedative.

We have now gone over the Symptoms of Fevers arranged as they express Irritation, Debility or Putrefaction. I conclude this subject of Prognostically observing that there is generally a concurrence of these Powers, & their Degree must determine our Predictions.

This leads us next to the Method of Cure we cannot

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give a Method as applicable to particular Species, as we have not ascertained them. We shall only give a generic Cure as applicable to Genera - In all Nature where there is Uniformity in Principles, yet thro each particular they are such subtile Differences as often escape us. - Our Conduct must be regulated by generalizing our Views - Our Method perhaps will apply however to Differences of Species & Varieties of Varieties - for if we had entered on it, we should chiefly insisted upon the Difficulty of establishing & the Limits to be observed. - What we have said of the Causes & Prognostics lays a Foundation for the Method of Cure - Our Causes agree wth the generally established Genera of Fevers, of Inflammatory, nervous & putrid.

My Plan of Cure is to be reduced to the 3 general Indications corresponding to the Causes of their General, as stimulant, Sedative & septic Power prevailing -

1st To take off Excess of Spasm.

2^d To restore Vigor of the Sensorium, especialy the equable Distribution of the nervous Power

3^d To obviate Putrefaction -

The Part of our System will be conformed from our finding the most conformed Remedies arrange themselves under these Heads -

1st To obviate the Excess of Spasm we employ

1st The antiphlogistic Regimen, consisting in the

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moderating their Irritations that are constantly & unavoid-
ably applied to the System, & at the same Time amending
every other Irritation within or without -

2d. Remedies suited to take off Phlogistic Tension - viz Bleeding
Purgeing (consid'r'd as an Evacuation) & the Medecins called
refrigerant.

3 To restore Vigor of Sensorium &c -

For this Purpose we employ Diluents, Neutrals, Sudorifics,
metics, Blisters, warm Bathing, cold Drinks & cold Bathing.
Cordials, Antispasmodics & Topics. I have chosen single
Terms. What has been meant under each will appear
hereafter -

4 To obviate Putrefaction we employ certain Means
of withdrawing the Fomes, antiseptics, & Tonics. Let us
consider them particularly & 1st. Antiphlogistic Regimen
so called because most fitted to the Cases where Phlogistic
Diathesis takes Place -

It consists in avoiding all Irritation - This Attention is
indicated in all Fevers. Certainly in all States of a
Fever where any hot fit yet subsists - yet making this
universalis wrong - For as Fevers arise arise if from De-
bility, It will appear that seeming Irritations are proper.
Here is an Ambiguity, wh indeed will seldom occur at first.
However in the latter Stages too we shall find that the Pre-
sence of an Inflammatory State on any render the avoiding
this necessary -

In Cases of sedative & Septic Powers, this [illegible] doubtful

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especially with Stimulants applied to the Sensorium only appear allowable. But wherein Spasm exists perhaps Stimulants are hurtful - All the Cases I can find where Stimulants are proper are attended wth little or no Spasm. — In Cold Fits of Fevers they may be admissible if we can perceive the Approach before the Spasm is formed; but here is Spasm blend - In Intermittents after Paroxysm is come on, every Stimulus Tends to lengthen the Fit. & are serviceable only in Intermissions. - Another can or may be in Continued Fevers - In the latter Case Ambiguity for the Inflammatory Congestion may be when we do not readily perceive it. - We conclude therefore that Stimulants are not admissible as long as the Hot Fit remains -

The Particulars of Antiphlogistic Regimen are

1st To avoid Sensations thence avoid Light & Noise but more especially do we avoid Impressions & Sensations that occasion Exertion of Thought. But thinking is difficultly avoided & exceedingly difficult especially in the Beginning of Delirium. This Consideration gives me a Doubt with regard to this general Rule of avoiding Impressions - for in the rambling Thoughts of Delirious Persons I think I have found Light & Noise necessary to bring back our ordinary Train. This is more necessary when ye Delirium is accompanied with violent Convulsions. I have frequently put off a Tendency to Delirium by having Light or a Company & put off the Sensations from internal Impressions.

2d The avoiding Bodily Motion — Motion of all kinds

is an Invitation to the Sensorium; but if we consider how much the Tension of Muscles is connected, the Exertion of Muscles influence the Tension of the whole System, this is not attended to. - I think that our Views in Bleeding are often frustrated by keeping the Body in a Posture when many Muscles are in Action - Hence the Advantages of Bleeding in a declining Posture, not enough consider'd - the least muscular Action is exerted when we lie on the Back - but this is not eligible as it retards the Return of the Blood to the Head. - The Head then should be raised & the Tendency to slide down may be obviated by raising the Feet, provided this can be done without throwing the Head especially in Motion to be avoided when accompanied with Tremor or Deliquium -

The avoiding Heat & Cold - You are doubtless well apprised of the great Powers of Heat & Cold on animal Oeconomy - that they may be Potentia nocentes or use: ful Remedies, but have that the Transition from one to the other takes Place by very slender Changes in Degree or Circumstances. The Attention to these difficult as their Power is does not depend so much on their Intensity & Degree as on the relative State of the Body. - I have endeavoured to bring out the Principles on this Subject - I have said that supposing human in the most perfect State, it is, allowing for Climate nearly at 98 his Temperature of Body would not subsist without the

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Medium surrounding it is cooler. Whatever Exceptions the Fact is very general. The supposing the Heat of the Body must depend on the Heat of the External Air - The Temperature of the Air wh is best adapted to preserve this Heat of the Body in our Climate is 62°-
When above 62 the Body feels hot, when under it cold.
To determine their Effects in Fevers. Physicians have observed that a certain Heat was hurtful, but this not sufficiently ascertained. Dr Sydenham perhaps first observed that Rheumatisms & other Inflammations were aggravated by a Certain Heat. And his Observation shew that such Heat proves a Considerable Irritation & therefore hurtful in Disorders of the Inflammatory Kind. It appears that in such Cases a Degree of Cold less than 62° is useful. The Question is to determine the Limits of this.
When Diathesis Phlogistica are evident, there is no Danger of applying Cold considerably below 62°. This is a Case in wh the Effect is as much determined by the Condition of the Subject as by the Intensity - Here appears that Vigor wh renders People less affected by Cold & by its generating greater Heat makes a Temperature lower than the Standard necessary -
In the small Pox it now appears that a Considerable Cold is allowable - I explain it from the Contagion of the small Pox having great Stimulus & accordingly after the Eruption the Fever brought is in Consequence

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of that Irritation inducing - Diathesis Phlogistica -
Whenever perhaps there is a hot Fit fully formed, the
Body as encreased in Heat perhaps requires more Cold
than 62°. - Cold then is useful in some Cases, & at least
in all Fevers every Degree of Heat above 62° is hurtful -
The Cases in wh Cold may be hurtful, are when Spasm is
not yet formed or Hot Fit come on - The Body then is
in that State of Debility that particularly favours the
Action of Cold. When therefore Fevers approach very gra:
:dually & with great Debility, the Exposure to Cold gives
greater Debility & more dangerous Spasm.
At this Time Heat by preventing the Sinking of the
Sensorium & obviating the Constriction of the extreme
Vessels may be useful.
When in formed Fevers the Sedative prevails & there is
Danger of the Sensorium sinking in extreme Degree.
When in Fever it is necessary at the first attack to
Force Sweats Cold is dangerous & Heat is useful.
This usefullness of Heat will appear to you contradic:
:tory to the universality of antiphlogistic Regimen.
Still apprehend that all general Stimuli are hurtful, but
I shall make Exceptions in favour of Stimuli that act
partially. Thus Heat acts principally on of extreme
Vessels - relaxes them & gives Rise to of encreased Exer:
:tion of nervous Power.
In critical Sweats Heat is admissible. this is confirmed

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by universal Experience, but not easy for Practitioners to apply the Rule - Difficult to determine when Sweats are critical - When Sweats are attended with more Softness & Fullness of Pulse with less Frequency - When the Flowing of Sweat is attended wth Relief of Head, Thirst, Headach, Delirium, Restlessness & difficult Respiration & with Sleep. There is no Doubt but such Sweats are Critical; but that Cold would be hurtful by suppressing it & that a greater Heat of Body may be admissible: but there are Colliquative Sweats in wch Heat is Hurtful. Certain Sweats are salutary if not urged by external Heat; & if so often prove pernicious.

Heat by being pushed too far may encrease the hot Fit, hence occasions topical Determination & therefore the Management of Heat extremely Difficult.

Critical Sweats then, & certain contagious Disorders wch we shall mention, are the only Cases of continued Fevers that admit Heat.

In Intermittents there is both Hot Fit & Cold Fit. In the latter Heat admissible; in the former it is so soon to terminate in Sweat that we would not apply Cold.

6th Stimulant Aliment.

Mead - The Action of the Stomach proves stimulant of System - And hence a frequency of Pulse attends the first Operation of Digestion. Food then is always stimulant. Abstinence then in Fevers is extreamly necessary - but as we cannot refrain from some Food, we

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:lescency. Hence liquid Food are & alka:
:lescent avoided as giving Stimulus & encreasing putre:
:factive Tendency in Fluids. The Rule of this Country
is to abstain entirely from animal Food is proper —
The Antients had a Nicety in giving Diet of wh we know
Nothing. The Inhabitants of warm Climates indeed may
require more regular Food as more sensible to changes: but
their Doctrine was found as much on Theory as Experience.
What is solid in these Observations amounts to this —
1st If Appetite for Aliment — This discovers the Levity
of the Disorder & therefore Stimulus of Aliment less
Dangerous — But tho the Appetite may guide us yet
we may very readily go to Excess. And therefore this
Rule not so general as that of avoiding Aliment when
no Appetite.
2d Abstinence is most useful at first — at the latter
End of the Disorder, aliment may be useful to support
strength. In Intermittents we are to take that Time
for Aliment most distant from Accession & in conti:
:nued we are to give Aliment in the most perfect Re:
:mission — This Attention to Time becomes less nece:
:sary, as we are cautious in giving mild antiseptic Food.
The Antients rejected properly all Stimulant Liquors,
that is all Liquors impregnated with aromatics & from
all fermented Liquors — hence Wine. Disputes with
regard to this, wh we shall consider hereafter as of

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admissible it must be as a Medicine - I do not know:
even agree wth Celsus in supposing that Abstinence
from usual Wine is of more Consequence that abstracting
usual Food; but Food not only stimulates the Stomach
but remains longer & fills the Vessels. - This indeed will
be relative to Habits - If a Person uses vegetable Diet
& much Wine Celsus's Rule may take Place: but Wine
is attended wth considerable Dilution & unagreeable anti:
septic Acid.
As to stimulants arising from the Body we must avoid
1st Thirst. This is generally in Proportion to the Demand
of Drink, & when we consider how useful Diluent Drinks
are on several Acc^ts. I see no Foundation for some of the
Authors recommending Abstinence from Drink for
3 Days - Thirst as a Stimulant ought on the anti:
phlogistic Plan to be removed. - As to the antient
Rule a Case is explained by Dr Cleghorn -
He says in the greatest Urgency of the Thirst in Paro:
xysms of Intermittents the Spanish Physicians do
not give Drink till Sweat is ready to break out.
He finds a Reason first in the great Collection of
Blood in Lungs &c - wch would be aggravated by filling
the Stomach. - Besides this, these Physicians say
that Drink tends to prolong the Fit & the whole sou:
thern Practice has this Tendency - We shall hereafter
explain this perhaps. We may observe that Drink is not

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to be regulated by the Thirst of the Patient.
2d Crudities of Prima viz to be removed, whether from Ingesta or Fluids of Prima Via thrown out in too great Quantity or vitiated Quality.
3 Stimulus from Costiveness. – In all fevers not remarkably bilious & putrid, Costiveness commonly occurs – It arises from the general Constriction of Extreme Vessels. The Tension of the alimentary Canal has great Effect on that of the System – Hardened Faeces collected then will prove stimulant – But further in Fevers Fluids are accumulated in ye abdominal Viscera this must be encreased by the Constriction of Vessels of the Intestines & therefore the relaxing there & evacuating the Faeces will relieve this. Glysters are proper for this, tho not more stimulant than just to answer the Purpose, otherwise Purgatives.
4th To obviate the Acrimony of the Fluids in general Every Person will admit that in all Fevers there is a Tendency to Putrefaction & alkalescency. Hence that this must be moderated by antiseptic Aliment & considerable Dilution. Physicians have spoken much of the Dissipation of the Fluid Parts of the Blood, hence an Inspissation of the remainder & therefore a Lentor supposed. This allowed, wh we shall not now examine, Dilution appears equally

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necessary. Therefore Deletion is a considerable Part of antiphlogistic Regimen

We proceed now to the taking off Excess of Spasm when it occurs - Many of the Particulars of antiphlogistic Regimen are applicable here. You will easily discover how many of these Particulars as obviating usual Irritations are withdrawers from Impetus of System.

We especially however obviate Spasm by taking off arterial Tension particularly that in wh Diathesis Phlogistica consists -

What Difficulty there may be in explaining how the encreased Tone of y arterious System encreases Spasm, the fact is certain - for we find the encreased Action of the Arteries greatest in the Phlegmas. where Phlogistic Diathesis is certainly present.

1st because this Diathesis gives longer Fevers when it occurs.

3d Because whatever Stimulant has the Effect of encreasing Arteries gives greater Spasm, longer Paroxysms, & therefore often changes Intermittents to continued Fevers.

The Remedy of the Phlogistic Diathesis is Blood-letting, the Tension of Arteries depends partly on the Increase of the Action of the Sensorium partly on distending Fluids - hence if we consider how Evacuating takes off the Tension & how the Tension of one Part is connected with that of another we shall see its Effects.

And then V. S. should have the phlogistic Diathesis,

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But tho V.S. is indicated in so many Fevers, yet we must consider that the Excitement, the vigor of the Sensorium depends on a Certain Tension given by the Heart & Arteries to the Vessels of the Sensorium – When Debility prevails in Fevers & they end fatally, it may be not only from Poisons attacking the Sensorium, but may take off the Tone of the Arterial System. Poisons indeed may do this – it appears from the Dissections of the Persons who died of the Plague at Marseilles & others, the Heart was found distended commonly to double its natural size, Arteries full & very turgid wth Blood – Liver commonly of double natural size – all these are to me proofs that the Tone of arterial System was so weak that the natural Contractility could not unload them as usual – hence to be considered as a principal Cause of the Death.

When Death arises from Causes of Debility it appears in the Weakness of the Pulse – When these Causes of Debility occur, when the Debility is approaching or when Reason to suspect to Debility is soon to prevail tis dangerous to employ means for taking off Tension of the Arterial System – There are therefore limits to V.S. even in Fevers very inflammatory. There is not a more difficult Question than when V.S. is to be employed in Fevers.? There are here 2 general Rules, indicating or contraindicating it.

1st Indicated wherein Stimulus is more in Proportion than Sedative or Septic. Many circumstances determining this. We know stimulant Power to prevail when at first the Pulse is very frequent, accompanied with Strength & Fullness

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and especially if joined to a sensible Hardness
When considerable Heat too is present & also when the Celerity
of the Stroke is perceptible. This will be more indicated when
appearance of topical Determination, as Head-ach, previous
Delirium, Difficulty of Breathing.
When these Marks are not sufficient by decisive, we take
in other Considerations. Thus when we know that Causes
more evidently stimulant have preceded: as when the
Patient has been exposed to great Heat, Labour or Cold.
I would not be positive but Cold may excite Fever alone
it at least determines particularly to Phlogistic Diathesis.
Another Consideration is the previous known Vigour of
the System known to be disposed to Phlogistic Diathesis.
Hence in the robust & youthful. The antients from their
Climates perhaps avoided Bleeding in very young &
very old Persons. The Generality of this Rule was doubted
in Celsus Time. yet certainly old Persons are less
disposed to Phlogistic Diathesis. In very young Persons
the Lacity is greater & Tension less. So that V. S. less necess:
sary — In the Advance of Life Caution necessary.
Other Circumstances determine to Phlogistic Diathesis
as cold Season & cold Climates —
In such perhaps there is always more or less of it, but by
using so freely here, we have badly transferred to warm
Climates the same Practice —
2d — V. S indicated in Proportion to the recency of the Disease
as Spasm greater ~~then~~ & Phlogistic Diathesis then greatest —
The Contraindications of V. S are for the most Part con-
verse of what we have mentioned. Accordingly forbid where:

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ever Sedative Power is present or is expected to prevail but we are here to determine by symptoms when the Pulse is not quick nor full & especially if weakness of the Tension and animal Strength.

Other Considerations where they are ambiguous.

When Sedative Causes have preceded Death may arise.

As Sedative either does at first or soon will succeed in Fevers from Miasmata or Contagion Caution is to be had. We may use V. S at first perhaps, as much Inflammatory Affection often attends

In Miasmata & Contagion V. S appears in general dangerous. Other Causes of Debility influence these as when the Disorder succeeds large Evacuations, other Disorders, Grief, Fear, Watching &c.

In all these V. S. is to be abstained from or used with great Caution.

When Disposition to Debility & Putrefaction. Hence V. S. carefully to be used in warm Seasons & Climates.

We see warm Weather take off Phlogistic Diathesis & besides gives a Tendency to Putrefaction.

As the Disorders have subsisted long & therefore Debility a Tendency to Debility may be more expected.

If the Diathesis Phlogistica has the chief Ther in forming continued Fevers. In intermittents we may presume its Absence. And hence we find Intermittents & Diseases changed from them Intermittents do not admit V. S.

If from Phlogestic Diathesis they should particularly require Bleeding yet the more of Intermittent in Form, the more Caution must we have in V. S.

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These are the general Rules of Practice wt regard to V.S.
These have arisen from Considerations before Trial, but
Practice has furnished us with Signs. If the Pulse becomes
softer after V.S. it is a Sign of Phlogistic Diathesis present —
If without great Debility the frequency & Celerity are dimi:
nished after V.S. it is good: but it must be avoided here if con:
vering Signs of great Debility.
If it relieves Difficulty of Breathing, the Decubitus Dyspn:
oea, the Delirium &c we may be certain of its propriety a
Another Mark is the Appearance of the Blood itself.
If it has flowed in a full Stream from a large Orifice &
coled very suddenly & it still is a uniform Coagulum
we may suspect Dissolution & Debility & hence a Contra:
indication to V.S.
If under these Circumstances there is a full separation
of Crassamentum & Serum & a Separation of Lymph, suf:
ficiently tough on the Top, V.S. is established as proper.
Serum not separated is no Mark of Lentor, nor is a less
Separation a Mark of Phlogistic Diathesis — As I
have found by Experience — Indeed I think that small
Crassamentum with Buff, that by its Contractility
draws up to a Purse gives the greatest Mark of Phlo:
gistic Diathesis. When the Crassamentum is diffused &
has a Plain Crust on the Surface wt little Serum sepa:
rated, I look upon it as a Symptom of less phlogistic
Diathesis + The Serum as more or less red, like the
Lotura Carnium, shews Putrefaction.

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yellow Serum too is the same, tho ambiguous in some
Measure as in some Rheumatic Cases of this Country
in wh no putrescency could be expected, I have seen yel:
low Serum – This then is a mark perhaps of Phloges:
tic Diathesis as well as Putrefaction.
The most difficult Cases of Fevers with regard to V.S. is
when a Fever has subsisted long & Debility & Signs of Topical
Determination at the same time
The Measure of V.S. Practitioners have found difficult to
establish – there many Mistakes on both Sides.
Many Fevers prove fatal for want of V.S. many because it has
been too plentiful – I have given you Rules for determining
it 1st the Constitution of the Patient. 2d the Circumstances
he lives in – his being an Inhabitant of a Cold Country I have
might have added according to ye Vicissitudes – Thus intense
Winters & Summers in northern Parts of America. Prac:
titioners inform me that such do not bear V.S. so well as
Europeans. Other Circumstances are Debility previous, Diseases &c
3d We are influenced by the Cause whether with or without
Miasma & Contagion 4th as more recent. 5th according to
Type, as more continent or intermittent especially
we judge by the Symptoms, tho this to young Practitioners
may be very fallacious. Thus in a putrid Fever violent hot
at first – these bear a single Bleeding, but a 2d may be per:
nicious. But the Symptoms will not do unless former
Circumstances be taken in. lastly the Effects of V.S.
then instituted must guide us. A Difficulty occurs, I said,

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n topical Determinations, where great Debility is also pre-
sent often in these Fevers, from Delirium, Suffusion of Con-
tenance, Stupor, Delirium, Subsultus Tendinum have sus-
pection of Inflammation of the Brain; & Bleeding here propr.
Topical Inflammation always gave general phlogis-
tic Diathesis, Bleeding would be indicated: but we know
there may be topical Affection without occasioning Fever &
therefore not giving Phlogistic Diathesis. For such of
Drawing Blood from a Distant Vein has no Effect.
I have seen an Inflammatory Opacity of the Cornea, wh
would not be cured by the most copious V.S. Topical In-
flammations then unless accompanied with Presence
of Phlogistic Diathesis are not Indicants of Blood letting.
In Proof of this we know that topical Inflammation may
subsist under great Debility of System. Thus the Inflammation
in the Jail Fevers. A topical Inflamonation may be hurtful
in the Part, & may vitiate the Sensorium, yet may not admit
general Bleeding without great Hurt. Topical Bleeding, if
convenient may be employed. — but difficult often to measure
this. I have seen Leeches applied to the Temples go to excess
in the whole System. In Affections of the Brain, topical
Bleeding on ye external Part of the Head, it is probable have
greater Effect than general Bleeding in Affections of ye Lungs.
But this Affection of the Brain may be to a considerable Degree
is not to be relieved by V.S. without injuring the System whe-
ther general or topical V.S. This is the most distressfull

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Case in Fevers, tho as so we must take the anceps Remedium & therefore employ, if possible, topical Bleeding.
The Quantity of Blood to be drawn is difficultly ascertained. Physicians & by Patients & determining from the State of the Pulse, the Quantity, but this is not accurate. In tying a Ligature we accumulate Blood in the Limb. The Resistance of the Ligature is equal to the Force of the Blood flowing from a Vein, because it does not flow sensibly from a Vein opened without a Ligature. & therefore during the whole Operation of V.S the Blood comes out equably. Accordingly I have found no alteration during Bleeding, when Deliquium ensued directly after taking off the Ligature. Indeed we may judge when Deliquium comes on before the Ligature is loosed. This however at me is a rare Occurrence & the Pulse a very fallacious Test of it.
In great Tension of the arterial System, we often have determined the Propriety of V.S. rather by the Relief perceived by the Patient, than by an Alteration we could feel in the Pulse. Other Circumstances may be taken in, tho nothing very certain. In a vigorous & moderately robust Person, this of Blood is a large Evacuation - after this great Caution. In very robust Persons of great Phlogistic Diathesis I will not exclude this, tho this gives Rise to great Debility & very tedious Convalescence.
A Second Evacuation is Purgatives -
To consider their Effects, we must consider that it cannot be obtained without Stimulus applied to the Intestines. This may be of such a Kind as to communicate Stimulus.

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And therefore certain Purgatives may hurt as much by Stimulus as the relief by Evacuation. Purgatives then for taking of Tension are not admissible, except Stimulus much confin'd to the Alimentary Canal. Its a known Observation that the Evacuants by Purging, has not equal Effects with that from V.S. The Reason is evident. The Tension of the Intestines much connected wth the whole System, but the Connection of it wth the sanguiferous System is not nearly so great as the Connection of Tension of the different Parts of that System. Thus loss of Blood from a Vein is as good perhaps as loss from Intestines.

All the Reasoning against Excess in V.S will apply to Evacuation of Purgatives. This may be the Reason why Practitioners have avoided Purgatives as Evacuants, in Fevers. Hence Emollient Clysters substituted. But besides the Evacuation by Purging takes off the Determination to ye Skin, so useful in Fevers. Accordingly a spontaneous Diarrhea or severe purging has been always reckoned hurtful in Fevers, & hence Effects of purgatives not answerable to what we might expect from ye Evacuation. Nor have they been much recommended. Sydenham condemns them in Pleurisies & Peripneumonies. here we might suppose however they would derive from ye Breast as well as V.S. But the Consideration of taking off Determinations to ye Skin ought be taken in. The antiphlogistic Purgatives may be used, but from the Danger of Excess from them deriving from the Surface not much employed.

Yet in some Fevers Purges are very good. Let us consider whether

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in such Cases they do not act differently from demulcents by the general Tension. - They are good in Fevers called bilious. That is, Fevers with considerable determinations of Fluids to the abdominal Viscera. This I said was peculiar to Fevers of the intermittent Kind especially the autumnal, because the Bile seems under a particular Vitiation at that Season. I suppose with Practitioners that Bile in these gives acid Matter & by stagnating gives Rise to the Absorption of it. & hence Purgatives useful. This Affair of Absorption is not established certainly: but besides, it appears that Fluids determined to the abdominal Viscera do not act always by the Quantity poured into the alimentary Canal: but by being accumulated in proper Vessels occasion Spasm. In Proof we find that the Liver &c are much enlarged. The opening the numerous Excretories of the alimentary Canal may be the very way To obviate these Effects.

This shews the Application of Purgatives in Intermittents & Remittents. It is also the Foundation of Purgatives in putrid Fevers, where Ferment has often a Tendency to induce Intermit. Hence so much Talk of Chrystals of Tartar in putrid & malignant intermittent Fevers, so frequent in warm Climates especially when exposed to marshy Exhalations. These Fevers frequently attended Petechiæ, but then not always a Mark of Putrefaction. In nervous Fevers from human Effluvia, this is the Case when attended wth Petechiæ.

Dr of Mentz proposes curing all Petechial Fevers by purging. Many of his Proofs are very ambiguous, thus he used Oxymel Sulphureum often wth an Emetic as well as Purgative. he using oxymel Sulphureum leads

(a) This is a Quotation from Alexander's Essays - the Sentence is incomplete.

me to observe that Tartar Emetic has been used as purgative. I believe that it has bad Effects when it purges; tho many late Practitioners quite overlook its nauseating Effect, wh is certainly very considerable. I shall endeavour to shew that Purging as mere evacuation have not been so successful.

A third Head of Remedies remains under the general Title of Refrigerants. The particulars are acids & certain Neutrals. That both are sedative many considerations lead to - particularly their experienced Efficacy in Hæmorrhages wh can only be owing to sedative Power. Acids besides quench thirst & therefore do stimulus. by taking of the Dryness & Clammyness of the Mouth. by resisting Putrefaction at least in the Prima Via if not in the Blood. by promoting Urine probably Respiration they may be good. It is probable that vegetable Acids promote Sweat. That fresh Fruits are the best Evacuants for acrid Bile. In all putrid & Inflammatory Fevers, acids are undoubtedly proper. In nervous Fevers their sedative Action is not hurtful. like that of neutrals it probably occasions a Reaction of the Sensorium that determines to the Surface.

Neutrals - What Powers they have as Sedatives is still uncertain. In cases where Momentum of Blood is so violent as to threaten immediate Rupture, a Dose of Nitre might be (a) in.

This is a refinement that perhaps is scarcely admissible. Their Action in these Cases is perhaps the reaction wh they occasion determining to the Surface. This sedative

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Power is confined to a few of the neutral Salts. Many are accompanied wth great Stimulus to every Part of ye System. We shall speak of Neutrals as Diaphoretic. I shall only observe here that they may be antiseptic in the Prima Viæ tho not in the Blood – They are also Diuretic. In affections of the Lungs, I have seen the Cough aggravated by neutrals & Acids. An Instance in a late Write on the Plague. He found Vinegar a useful Diaphoretic – but in weak People & the Phisical he found it give Oppression of Heart, Cough &c. The Preference in Acids is given in Favour of Vitriolic. The Marine & nitrous have particularly the Effect of constricting the Lungs, especially the former. –

We proceed to the second general Indication, wch is to restore Vigor of the Sensorium. particularly the equable Distribution of the nervous Power to the System in general perhaps to the extreme Vessels every where. We shall possibly repeat some of the Remedies mentioned under former Heads, but the same Remedy may answer different Intentions. – I must arrange the Particulars under certain general Heads. as they operate to the general Ends in View. Some particularly operate by restoring the Distribution of the nervous Power to extreme Vessels. Others in restoring the Determination to the Surface of the Body, as this is the most palpable Instance of Determination to ye extreme Vessels from the Number therein. Deluents, Neutral Salts, Sudorifics & Emetics are the internal Remedies for this Purpose. Externally Blisters & Warm Bathing

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All these act partially by restoring more particularly the nervous Power to the extreme Vessels appearing especially in the Deformation to the surface.

The 2d are such as especially restore the Tone of the actor:ial System. The Action of the Heart & Arteries I have said was necessary to execute the Action of the Sensorium. but often this fails for want of Action of the Heart & Arteries. wh is to be restored by cold Bathing Tonics & the stimulants called Cordials.

A 3d Head of restoring regular Action of the Sensorium is antispasmodics - We are to consider these in ye Order mentioned

Diluents - This is an Example of the same Remedy answering different Indications - they were a Part of an Antiphlogistic Regimen by obviating Acrimony in the Prima Via, in ye fluids of the Mass of Blood & delu:ting too, if you please & favourable to obviating Lentor, & favouring Secretion & Excretion.

From their favouring Excretion by Urine, Perspiration & Sweat, they belong to this Head, as they carry on Circu:lation more fully to the extreme Vessels & thereby con:tribute to restore their Action or at least obviate their Constriction. If this can be done, by the Bulk of an inert Fluid, it may be done w^t Safety & Advantage. Water then is justly acknowledged the Basis of Diluents. & all stimulant Impregnations may be hurtful.

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It has been alledged that Pure Water is less apt to
rite without Fluids than some Diluents of a more
acid Kind - That Water cures off soon by Excretion,
doing so it answers the Purpose of opening Excre:
ions but is less fitted for taking off Acrimony or
moving Lentor. Physicians then have found that
impregnating Water with acid Matter is usefull,
nce have they employed impregnations of farinace:
us Seeds, as less apt to pass off & most apt to en:
vscate Acrimony.
eutral Salts - As antiseptics & antiphlogistic
ratives I have said they may be used: I have said that
tle Dependance is to be had from their refrige:
ating Power, as they cannot be thrown in suf:
ficient Quantity. And tho they should, yet of little
fficacy, as the refrigerating Power seems imedi:
ately to excite a Reaction of the Whole, at least of
Part of the sanguiferous System.
They seem thus to have much Power in restoring
Action to the Extreme Vessels & therefore of curing
Fever, as depending on this. That they operate thus,
appears from the Head on the Surface attending their
Exhibition, from the Sweat that often follows & espe:
:cially their obnoxiating Effects of Cold Fits in Intermittents

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That they act thus appears from the analogous Ope:
:ration of Cold Water. We might enter into curious Dis:
:quisitions of the extreme Vessels being as Dwed, the
Instruments of Tension, of their Connection with
the Sensorium, of this with the Stomach & thereby the
Stomach with the Extreme Vessels. This would give
illustration of our Theory of Fevers; but it is sufficient
to know that Neutrals obviate Spasm of ye extreme Ves:
:sels & thereby I suppose Spasms are overcome by restoring
Action to some Part of ye sanguiferous System. This is
performd probably by neutral Salts.
Three Questions occur here.
1 How hat Limits these may be carried.
2 Where properly to be applied.
3d What neutral Salts are proper. As to the first we know
that they are not always efficious –
The greatest Advocates for them acknowledge them only
efficacious in Tertians & Quotidians.
It is necessary to know what is the Effect. If they do not
cure, but contribute to it, why are not the Doses encreased
& more frequently repeated? I suspect they may thus do
Harm. A Hot fit formed to a certain Degree only is ne:
:cessary to remove a Fever. I have observed that by too
violent hot Fit, the Patient was dissolved in Sweat &
the Fever as far from Solution as if no hot Fit at all.

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I suspect that the constant Use of neutral Salts would prevent that proper Degree of hot Fit wch is necessary for Solution of the Fever.

The Spanish Physicians according to Cleghorn allledge that from Experience it appears that imbibiting Drinks too soon prolongs Paroxysm. I conjecture here that any Heat whether Cold as refrigerant or hot as immediately relaxing the Surface will Tend to this.

I Imagine I have found the Reason of the Abuse of neutral Salts here.

This leads to our 2d Question of the Propriety of applying when the Cold fit is come on & 2dly when Hot.

4 3d Case when a Spasm in the Stomach, wch may be properly taken off by neutral Salts. This appears in Intermittents in wch I refer their chief Use to the Time of Exacerbation. In the ordinary Exhibition of saline Mixture, it is a Placebo. If we would have Effects larger Doses must be employed.

4d Choice of Neutrals? A Question undetermined.

Few Practitioners have Diligence or Capacity for enquiring into these important Points. Sal Ammoniac a digestive Salt have been reckoned most effectual — to take off Vomiting in Fevers we have employed saline Draughts. What Difference in one or the other drs which

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appropriated to Intermittents, continued not known.
The Sp. Mindererii as exhibited in general is frivolous.
have seen it used in prodigious Quantities without
effect - I only observe here that this is not ascertained
Sudorifics - They at present on an uncertain footing -
they were formerly considered as the chief Remedies &
Sydenham properly restricted their Uses. But it is
not certain that Sydenham & his followers did not go
too far; taking Sudorifics for every means more or less
stimulant, wh may promote Sweat. q Fevers in a Termi
nate in Sweat. Neglecting that the Advocates for
sweating are now deprived of the support of morbific
Matter to be thus expelled. I think that upon this gene:
ral Fact of Termination in Sweat. we might take
Arguments for Arts promoting it - Many specious
Reasons might be deduced.
Since Sydenham few Advocates for Sweating. Dr Morgan
in his mechanical Practice has however alledged
that most Fevers may be thus Cured, but not con:
clusive. for 1st in Intermittents many Sweats
without final Solution. 2d final Solution in fevers
are not in proportion to the Sweat. Critical Sweats
often moderate. often Intermittents are aggravated
by profuse Sweats & their Length continued. Intermitte

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so are often attended wth Sweats, that protract the Disorder.
Sweats urged are apt to render Intermittents continued
a much more pernicious. This has been said of Dr Morgan.
But on the other Hand we have his Testimony of curi-
ung all Fevers by sweating, wch must certainly go
some Length notwithstanding his Prejudices. I have
known other Physicians that followed this practice
successful, - In the Age of Alexipharmacs had we time
to consider them many Facts occur. & some fevers ab-
solutely require Sweat. The Point then is not deter-
mined. I think that if a Fever can be perceived app-
roaching before Formation of Spasm sweating may pre-
vent this & by restoring Determination to ye extreme
Vessels may obviate the Fever. We have Proofs of this
in the curing Intermittents, by supporting Sweat
till the Time of Accession. By such Means does
Dr Morgan say he cured the most obstinate Quartans.
Instances in Practice of Continueds cured by the same
Means. It may be said here that the Fever would not
have come on but from the Circumstances indicating
it & the suitability of the Practice we may suppose
it effectual.
Again Sweating may be admissible in a recent
Spasm. This appears from Experiments.

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Sweating will be found useful when from the
Nature of Epidemics we know it to depend on a re:
markably sedative Power. In Proof of this the unusual
Practice in the Plague has been sweating.
Many Disputes - but we neglect the Objections that
rise from Malad Ministration of Sweating, we shall
find the most happy cure of the Plague to have been by
Sweating - Deemerbroek was most free in this Prac:
tice - Of late Chi - st & others late Practitioners
have waited more for Nature, but seized the first Oppor:
tunity of promoting this Tendency - Other Proofs of
Sweating in the sweating Sickness. Many Testimo:
nies of the Hurtfulness as well as the Inefficacy of
Sweating - To determine here we must observe
that in cases when Sweating is most useful if
this is pushed by Force, that is by Inflammatory
Stimulus, Load of Bed Cloaths, or if with the Sweating,
Delirium, Difficulty of Breathing, or the Sweats partial,
will at least protract, if not aggravate the Disease.
2. Continuance of the Hot fit depends on Phlogistic
Diathesis, whatever lengthens this has a Tendency to
produce this Diathesis, & therefore give more Danger.
Vehemence of the hot Fit besides may occasion

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topical Determinations of the greatest Danger in Fevers. The urging of Sweats then requires great Caution. — My Rules here are that

1st When Phlogistic Diathesis or the Spasm necessary to this, urging Sweats is very hurtful. On the Contrary when Spasm not formed

The Question of the applying of Sweat particularly relates to the yellow Fever of the west Indies — This appears to turn out fortunate only when in ye Beginning has been brewed. I am almost persuaded that the same thing is to be done as in the Plague. we must not urge it violently but promote the Tendency when it appears. Many facts shew the Danger of urging Sweat too far.

When Symptoms of the Hot fit are strong, we here a Tendency to Sweating is not to be encouraged. as we may so urge the Hot fit that the Sweat will be pernicious and more moderate would have been salutary. — Topical Determinations are too to be apprehended from urging Sweat. would here give 2 dogmatic Rules. Where Diathesis Phlogistic evidently prevails is the Spasm depending on this, or indeed being obstinate from any Cause, sweating perhaps is not to be pushed. M: Chenot speaking of the Cases for or against Sweating, says "See the Author's writings —

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I would then forbid sweating under any very violent Spasm.
Before Spasm is formed & especially when recent & 3d when
Miasma & Contagion of sedative than Stimulant, sweat is
allowable. In 1st Perhaps the Disorder may be prevented by
sweating. In 2d Before Spasm much formed it is more safe.
but in 3d when we know that the sedative Power will multiply
by Fermentat:n or induce Debility by Repetition of Pa:
roxysms we would wish to employ sweating. The
sweating in these Cases must be excited by the least Stimu:
lant, as Tepid Applications, bulky warm fluids that act
chiefly by Bulk. It is as necessary that sweat be not
very profuse, but moderately carried on. Chief endeavours
very where to inculcate that a more full Respiration
is best, & that the Relief is not as Degree of the sweat.
We may from our Directions send too why sweating is best
after Blood-letting. Hence Sydenhams promising V.S.
to sweating in the Plague was well founded.
It has been observed that a previous Bleeding not only
reduces sweat safer but also purging.
In the late Plague of Marseilles it was a universal Rac:
tice - Similimus ventured on V.S. but commonly gave a
Vomit to clean the Primæ Viæ. If this did not purge, they
opened the Belly: & then in the least Effort of Nature promoted
sweat, on wh the Cure was rested. The previous Purging they
found useful & this we may understand from the Construction

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of the Vessels of the alimentary Canal, being taken off & thereby the dangerous Accumulations in internal Parts obviated – As to the Degree of Sweating notes: tablished. – Different Opinions. Diemerbrick thought that he might for the Ease of the Patient allow Sweats to subside & renew them again. But Sydenham says, that those Sweats are very Dangerous. The Subsiding was Attended wth appearance of Spasm & the Renewal attended wth Aggravation of Symptoms. Sweats then, that the Patient may support them a sufficient Time, should be moderate, violent ones for a short Time have been often pernicious. In Fevers there is an Exacerbation in 24 Hours. Imagine that Sweats ought always to be continued till we are sure the next succeeding Accession is passed over & hence must be extended beyond 24 Hours. The good Effects of Sweating depends on its being equally determined to all Parts & down to the Extremities of the Toes. Dr Chalmers of Carolina trusts more to Sweating but takes especial Care to determine it to Feet – If we wish not to apply general Stimulant sufficient for this, yet by particular Stimulants to the Extremities the End may be obtained without the Inconvenience. hence he puts Hot Bricks to feet. This Author has presented us with a Difficulty. He insists that Sweating is useful in Inflammatory Diseases as Peripneumony. If he is right our Reasoning is doubtful of not false.

The only Acc^t by w^h I can obviate it, is that as thus

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Peripneumonies may take an Intermittent Type, I would suppose them not Idiopathic. Peripneumonies but only accidental Determinations in pure Fevers – this however wants further Confirmation.

I might enter on the Remedies employed for sweating; but less necessary as I have laid no stimulant Prepare. Opium has been pretty universally the Sudorific. The active Part of Methridate & Theriac perhaps is Opium. In the Plague of Marseilles simple Opium & Laudanum answered equally well. As many Objections have been against sweating by Narcotics as by Stimulants, however we explain it, Opium is reckoned hurtful in Phlogistic Diathesis.

But as Opium sweats by taking off Constriction of the Extreme Vessels, this more than compensates for Stimulus therefore may not such Sweats be useful in Spasm? My Practice does not determine this – Sweat may be rendered safer, if produced by such Remedies as operate more by taking off Relaxation of extreme Vessels than by stimulating Heart & Arteries. Such are Neutrals & Emetics.

Neutrals are not yet determin'd, never have been employed in the Plague: but Practice now shews that they are Sudorifics of the least Stimulus & best fitted for avoiding the Dangers of exciting Sweat in great Hemipilabis as mentioned by Chirst – let us then consider whether the Objections against Sweating that have arisen from

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using Stimulants, may not be remedied by using neutral Salts.

Emetics. The present favourite Sudorific in Practice. De Haen is the only famous Practitioner who oppose their Use. We must consider them as producing

1st Complete Vomiting

2d As inducing Nausea without Vomiting.

Vomiting generally useful by cleansing the Stomach, so frequently the Seat of Irritation in Fevers. & useful as the Operation emulges bilious pancreatic Ducts & Excretories of the alimentary Canal, particularly useful thus for obviating the Accumulations mentioned.

3d More Considerable Action is the Determination to the Surface, wh they certainly do as well as from acting on Extreme Vessels as by the Exercise. that they operate on these Vessels appears from Natures bringing on hot Fit by vomiting: & also by their so frequently curing Intermittents. The Case in wh most hurtful when Inflammation on the Stomach or other topical Determinations in great Degree. Often not effectual from their Effect not being sufficiently durable. If the Action on the Stomach is necessary in curing Fevers to be supported some Time, vomiting is improper.

The Exciting too of Vomiting will occasion a proportion Depression, As appears from the Weakness felt afterwards; & especially from Practitioners observing that if whole Operation of vomiting is over before Accession of intermittent

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Paroxysm, this becomes more violent.- This I can only explain from their inducing Debility.
Besides Evacuation & general Agitation, Emetics act on extreme Vessels by Action on the Stomach - The Proof is that when only giving Nausea they often give sweat, or without this relieves the Fever - This is to be explained I think from their restoring Action to extreme Vessels. The Action of the Stomach not only produces Action in extreme Vessels of the surface but also in extreme Vessels every where, & therefore a nauseating Dose of Emetic may obviate Obstruction of the Viscera without being applied to Intestines. but when for this Purpose we generally give in such Doses that they reach the Intestines. As to the Particular Administration we must first consider the Time of the Fever when most proper to be given. It has been found in that a nauseating Dose even before the Fit has with sweating at least rendered the Fit less considerable & often cured. It has been found that the Approach of a continued Fever has prevented the Disorder. Dr Lynn has given many Facts in Proof of it - He supposes it owing to the Mason & Contagion being particularly lodged in the Stomach & thereby thrown out. But without raising Doubts about this Seat of Poison or the Reasoning that would follow I say that Emetics are effectual when no Vomiting has occurred a other Means of Expulsion & then we

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rather refer its Action to the obviating Spasm.
Emetics given in Cold Fit gives an End to it & brings on hot
Fit & by repeating this, we may often cure the Fever.
The Vomiting of the cold Fit I have said appears a means
of Nature for bringing on the Hot. Its coming on late
may depend on a Spasm being necessary for some
Time before it affects the Stomach.

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What kind of Emetic Medicines ought we employ? In ye Beginning of Fevers vomiting is to be promoted especially if no Inflam: Diarrhœa attends. After Fevers have continued for some time they are less safe upon the Acc: of Inflam: Congestions happening sometimes in ye progress of Fevers. the nauseating Medicines only are to be used in these Cases. I am happy in finding several Authors of Credit agree w the me in this Practise. Vomiting therefore ought be continued only to ye Beginning of Fevers.

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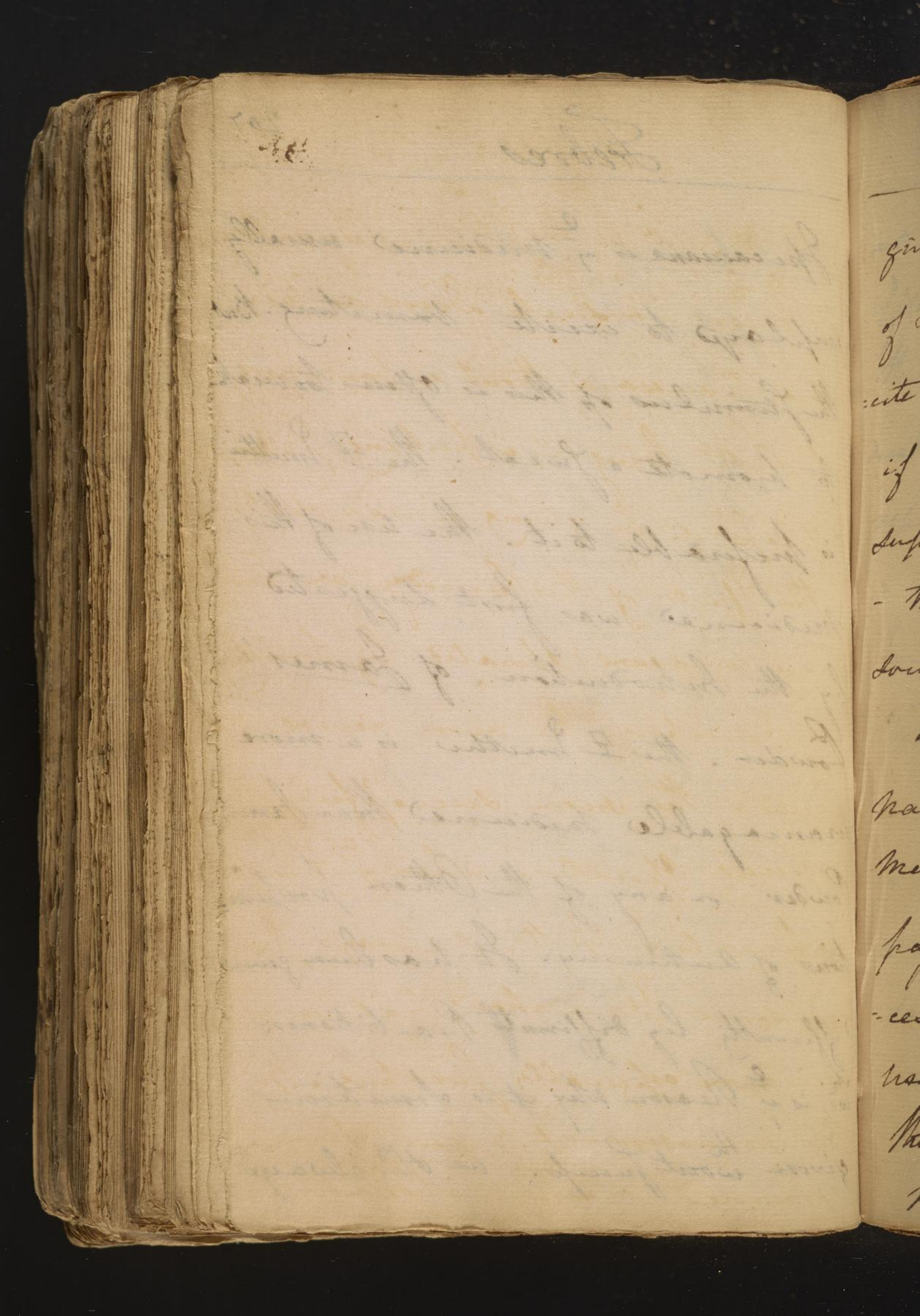
Ipecacuana is ye Medicine usually employd to excite vomiting. But the Stimulus of this is often too weak to promote a Sweat. the ℞ Emetic is preferable to it. the use of this Medicine was first suggested by the Introduction of James's Powder. the ℞ Emetic is a more manageable Medicine than James's Powder, or any of the Other preparations of Antimony. It has been given differently by diffrent Practitioners wch is y^e Reason why it is sometimes given wth worst success. we Oh^d always



give it just before the Exacerbations
of Fevers in such Doses as to ex-
cite a Nausea without a vomiting.
if it shd: bring on a purging I always
suppress it by giving no warm water.
- the Effects of this Remedy are in
some measure Abviated by promoting
a vomiting. the more severe y e
Nausea the more successful y e
Medicine Operates. When y e Tartar
paper into y e Gutts it always produ-
-ces some Vacuation that proves of
use more especially sweating. By
this Management I have often
procured a Termination of Fever

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at Once. But its most general
Effects are to bring on Sleep - lower
the Pulse - & thus induce cuti:
:dunable Remissions in the Fever. By
repeating the Medicine the Distemper
is likewise rendered shorter. the Ft
Emetic may be given in all Stages of
Fevers before Mortal Symptoms
come On. But it does service chief:
:ly in the Beginning of Fevers & if
it does no Good on ye first two or three
days of Fevers we may lay it a:
:side. Nauseating Medicines are
less serviceable in the Phlegmatic

than in those Fevers where there is no Inflamatory Diathesis. However I have found it useful in Inflam.y Disorders. I would recommend a Tryal of them to you in such Cases.

We come now to treat of External Medicines wch are used to promote the excited state of the Sensorium viz. these are Blisters & warm Bathing ~~cold Water~~

1st Blisters - most of Practitioners disagree about these Remedies. I shall not discuss the various Opinions entertained concerning them. They stimulate & excite a

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considerable Inflammation, but this is topical & dont extend to the whole System & therefore frequently produces no Quickness of Pulse unless in Persons of very delicate Habits or those who are subject to a phlogistic Diathesis. But even in these Cases the advantages obtained by the Evacuation amply compensates for any Stimulating powers they exert. We cannot here for the success of Blisters in Fevers from their Stimulus. They Operate chiefly on the Vessels on the surface of the Body. The Skin is a continued

membrane & any stimulus to one part is easily communicated to the whole. The Effects likewise procured by Blisters tend greatly to cure Fevers. – In the Beginning of Fevers we Ought be cautious in using Blisters, Altho' I think we are apt to run to an extreme in this Rule. in all Fevers where the Sedative power prevail, Blisters are more Useful than in those where the stimulating prevail. Dr. Hayham forbids them in Inflamt. & putrid Fevers. But I think they may always be used to the Advantage in

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all Inflam.ry Diseases when they can be applied near to the seat of Inflammation. Dr Haen supposes the stimulus of Blisters to be very gene:ral, altho he acknowledges at y.e same time that they diminish the Heat of the Body, & approves of their being applied in topical Inflam:mations. Dr Pringle has confirmed the usefulness of this Practise in his Diseases of the Army. Dr Lind recom:mends Blisters almost universally & he is an Author of great Credit & veracity. He used them w: the

utmost success in all Fevers from Contagion! See the remarkable Cures of their success in his Treatise on Fevers & ~~Contag~~ Infection. Some suppose Cantharides dissolve the Blood & are therefore hurtful in putrid Diseases, but this I deny, for ye Quantity of Cantharides taken into ~~the~~ the Blood cannot be equal to y^e Effects produced upon it. Besides y^e Experience of Lind - Mussellet & Rivercies all confirm their usefulness. great Care ought be taken to avoid Strangurie in Fevers, & this is to be done by not

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suffering the Volisters to lie on too long. we sh^d. likewise be careful to avoid giving the Patient any pain in dressing the Volisters.

The best place of applying Blisters is to the Head & Back, from Inflam:mations being so frequently seated more or less in those places. they are not so useful when applied to ye lower Extremities altho' the vessels ap:pear to want to be excited there. in:stead of applying them to the Ankles I think it would be best always to apply them to the Thighs. —

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This leads me to speake of Synapisms w: are applied always to the Feet. they may be used where Vesicters are forbid by Languors or Other Circumstances. when we want a sudden Stimulus nothing but Mustard = seed shd. be applied, but this must not be continued above an hour or two or it will excite the most exquisite pain.

To restore the Determination to the Surface of the Body Another Remedy of great use in warm: Bathing This was used greatly among the

Ancients, but in Modern times it appears to be laid aside. Dr. Gilchrist of this Country has recalled the Attention of Physicians to it. See the Medical Essays & his Treatise on Sea Voyages. The Practise I grant is at=tended w.th many Difficulties, upon this Acc.n: Fomentations of the lower Extre=mities have been substituted in its Room. This has Advantages above a warm Bath. It excites a more universal Stimu=lus. It disturbs the Patient less, & may be continued much longer even two or 3 hours. These Fomentations are

highly useful in y^e advanced state of Fevers when the Phlogistic Diathesis goes on, or when the Return of Insorium is resisted w^ich we know from the Delirium & Stupor which attends. the Heat of these Fomentations takes off the Atonia & Spasm in the small Arteries & thus often produces Sleep & Remissions of the Fever. they sometimes bring on an entire Solution of the Fever. ~~they~~ when they procure sleep they seldom fail of curing Fevers in a little time.

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But in Order to excite the vigour of the System the Action of the Sanguiferous System must like be excited when it is too low or too weak. the Seat of the hot Fitt we said depends upon y^e Presence of the Phlogistic Diathesis; a want of a due Degree of hot Fitt is attended wth a Loss of Tone in the Arterial System. this Occurs chiefly in putrid Diseases. the Medicines proper to excite the Action of the Arteries are Cold & tonic Remedies.

Febres

Cold tends to excite the bufalo. we see it bring on Inflammations. may we know it to be the chief Cause of the Phlogistic Diathesis. It is there=fore highly useful in Nervous and putrid Diseases. we apply it in two ways 1 by cold Drinks. or 2 by cold Air or cold water applied to y Body. Nature leads to cold Drinks by Instinct in all Fevers. warm Drinks were introduced only by Reflection and Art. Authors are divided in their Opinions concerning the use of cold

Fevers

Drinks. I shall not enter into their Disputes, but briefly point out ye Cases in wch they are hurtful & useful.

1 Cold Drinks are hurtful in all Cases of Inflamm^n Fevers, or such Fevers as occur in cold Seasons or cold Climates.

2nd Cold Drinks should be employed with Caution in the Beginning of all Fevers.

3rd They are highly useful in all Nervous & putrid Fevers especially in their advanced State.

2nd In all Autumnal Fevers or the

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Fevers of warm seasons & warm Climates they are useful.

3:rd The Ancients used them about the time of the Exacerbation of Fevers. See Lamius upon this Practise. The Italians have greedily imitated the Practise of the Ancients in this Respect & even use Ice to cool their Water.

Cold Applications to the Body is likewise an ancient Practise, but has been laid aside among the Moderns. Sir John Floyer has many Instances in his History of cold Bathing of the

hapby Effects y followed the acciden=
tal or voluntary plunging the body
in cold water. But it is hard to reduce
this Remedy to any Rules of Art. Several
German & French Authors speak highly
of the Advantages of Immersing in cold
water in Fevers, but I cannot pretend
to speak confidently of it. I think how=
ever it may be ranked among the
Remedies that are to be used to ex=
cite the Action of the extreme Vessels,
and to promote the tonica power of
the whole System. It has been found

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chiefly useful in the Potrhical Fever.

We come now to speak of $\frac{\text{e}}{\text{y}}$ tonic Medicines. these are very numerous such as Astringents - fossil substances vegetable matters more especially the Peru=vian Bark. I shall confine myself only to the Bark $\frac{\text{w}^{\text{h}}}{\text{w}}$ is $\frac{\text{e}}{\text{y}}$ most efficacious of any vegetable or fossil Astringent we are acquainted with. Some suppose that it Operates Specifically, but I shall endeavour to explain its Operation in another way. Fevers we know comes on $\frac{\text{th}}{\text{w}}$ manifest signs of Debility & Atonic. now the Bark acts by Obviating this

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Atonia. Other Astringent Substances produce the same Effects. if it is given while the Tone of the System is preter=naturally increased or during the Fever it does Mischief. It is hurtful likewise in all Inflam: Fevers, but does most service in those Fevers in wch the Sedative powers prevail such as ye putrid petechial & Jail Fevers. See numerous Examples of this in Dr Haen Works.

"It may used therefore in the advanced state of almost all continual Fevers.

The Bark has been found highly useful

in Gangrenes. Putrefactions in ye
Animal Body can never takes place
but in Cases of an Atonia of the
Nerves. now the Bark by obviating
this Atonia removes the Gangrene
or beginning Putrefaction. the Effu:
-sions wch terminate in Pus are always
attended wth more or less of an Atonia of
the Vessels. By giving Bark we check ye
Effusions of red Globules & Obtain an
Effusion only of that part of ye Blood
from wch Pus is formed. the Bark there:
-fore may be exhibited in all those

Febres

Fevers when a Septic Laxity takes place wout any Regard to Remissions in them. The Bark proves Antiseptic when applied directly to the Body, but I cannot suppose it is absorbed into y: Fluids. Its Action is confined only to the Solids. It often cures Intermi: Fevers when given half an hour be: fore a Fitt comes On even in so small a Quantity as ℥ss. I conclude then that the Bark's Action is confined only to the Stomach whose Connection w: every part of the Nervous System you are all acquainted with.